CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Mail Code – 401-02B
Water Pollution Management Element
Bureau of Surface Water Permitting
P.O. Box 420 – 401 E State St
Trenton, NJ 08625-0420
Phone: (609) 292-4860 / Fax: (609) 984-7938

BOB MARTIN
Commissioner

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
7010 1870 0001 4760 9207

December 20, 2013

Eric Andersen, Director
Water Pollution Control Division
Bergen County Utilities Authority
PO Box 9 – Foot of Mehrhof Road
Little Ferry, NJ 07643

Re: Draft Surface Water Renewal Permit Action
Category: A - Sanitary Wastewater
CSM – Combined Sewer Management
NJPDES Permit No. NJ0020028
BERGEN COUNTY UTILITIES AUTHORITY (BCUA)
Little Ferry Water Pollution Control Facility
Little Ferry Boro., Bergen County

Dear Mr. Andersen:

Enclosed is a **draft** New Jersey Pollutant Discharge Elimination System (NJPDES) permit action identified above which has been issued in accordance with N.J.A.C. 7:14A.

Notice of this draft permit action will appear in the *Star Ledger* and in the January 8, 2014 *DEP Bulletin*. The *DEP Bulletin* is available on the internet at http://www.state.nj.us/dep/bulletin. In accordance with N.J.A.C. 7:14A-15.10(c)1i, the public comment period will close sixty days after its appearance in the newspaper or the DEP Bulletin, whichever is later.

A non-adversarial public hearing has been scheduled on February 12, 2014 from 3:00 P.M. to 5:00 P.M. or until the end of testimony (whichever comes first) in the City of Hackensack, City Council Chambers, located at 65 Central Avenue, Hackensack, NJ to provide an opportunity for interested persons to present and submit information on the proposed action.

As detailed in the *DEP Bulletin* and aforementioned newspaper, comments on the draft document must be submitted in writing to Pilar Patterson, Chief, Mail Code 401-02B, Division of Water Quality, Bureau of Surface Water Permitting, P.O. Box 420, Trenton, NJ 08625-0420 by the close of the public comment period. All persons, including the applicant, who believe that any condition of this draft document is inappropriate or that the Department's tentative decision to issue this draft document is inappropriate, must raise all reasonable arguments and factual grounds supporting their position, including all supporting materials, during the public comment period.

The Department will respond to all significant and timely comments upon issuance of the final document. The permittee and each person who has submitted written comments will receive notice of the Department's final decision to issue, revoke, or redraft the document.

If you have questions or comments regarding the sanitary wastewater section of the draft permit action, please contact Ben Manhas at (609) 292-4860. If you have questions or comments regarding the combined sewer section of this draft permit action, please contact Bela Mankad at (609) 292-4860.

Sincerely,

Daveki Keymoore
Supervising Environmental Specialist
Bureau of Surface Water Permitting

Enclosures

c: Permit Distribution List

Masterfile #: 14271; PI #: 46121

Table of Contents

This permit package contains the items listed below:

New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Surface Water Permitting

PUBLIC NOTICE

The New Jersey Department of Environmental Protection (NJDEP) is hereby giving Notice in accordance with N.J.A.C. 7:14A-15.10(d) of New Jersey Pollutant Discharge Elimination System (NJPDES) permit actions for eight (8) permittees, a public hearing on those permits as well as a request for input on a related matter as described below.

The NJDEP proposes to renewal the Bergen County Utilities Authority-Little Ferry Sewage Treatment Plant's individual Discharge to Surface Water (DSW) Category A Permit NJ0020028 as well as to incorporate updated Combined Sewer Overflow (CSO) permit requirements. Also, NJDEP proposes to issue individual CSO permits for communities in BCUA's sewer service area that have combined sewer outfalls. These communities are: Hackensack, Ridgefield Park and Fort Lee. The NJDEP proposes to revoke the authorization under the existing general CSO permit and issue an individual permit to Hackensack (NJ0108766) and Ridgefield Park (NJ0109118) to authorize discharges from their CSOs. The NJDEP also proposes to renew the existing individual CSO permit for Fort Lee (NJ0034517).

The NJDEP proposes to revoke and reissue North Bergen Township Municipal Utilities Authority-Woodcliff Sewage Treatment Plant's individual Discharge to Surface Water (DSW) Category A Permit NJ0029084 in order to incorporate updated CSO permit requirements. Also, NJDEP proposes to issue an individual CSO permit for Guttenberg (NJ0108715) since Guttenberg has a combined sewer outfall and is within North Bergen-Woodcliff's sewer service area. The NJDEP proposes to revoke Guttenberg's authorization under the existing general CSO permit and issue an individual permit to authorize discharges to from that CSO.

The NJDEP proposes to revoke and reissue the individual Discharge to Surface Water (DSW) Category A Permit for the North Hudson Sewer Authority-Adams Street Sewage Treatment Plant (NJ0026085), and proposes to redraft the renewal permit for the North Hudson Sewer Authority-West New York Sewage Treatment Plant (NJ0025321) as well as to incorporate updated CSO permit requirements.

The above actions are executed in accordance with N.J.A.C. 7:14A-1 et seq., and by authority of the Water Pollution Control Act at N.J.S.A. 58:10A-1 et seq., for the following discharges:

Applicants	Facility
Bergen County Utilities Authority PO Box 9 – Foot of Mehrhof Rd Little Ferry, NJ 07643	Bergen County Utilities Authority STP Little Ferry Water Pollution Control Facility 298 Mehrhof Rd Little Ferry, NJ 07643
City of Hackensack 65 Central Ave Hackensack, NJ 07602	City of Hackensack CSOs 65 Central Ave Hackensack, NJ 07602
Ridgefield Park Village 234 Main St Ridgefield Park, NJ 07660	Ridgefield Park Village CSOs 234 Main St Ridgefield Park, NJ 07660
Fort Lee Borough 309 Main St Fort Lee, NJ 07024	Fort Lee Borough CSOs 309 Main St Fort Lee, NJ 07024
North Bergen Township MUA 4223 Kennedy Blvd North Bergen, NJ 07047	North Bergen Township MUA-Woodcliff STP 4223 Kennedy Blvd North Bergen, NJ 07047
Town of Guttenberg	Town of Guttenberg CSO

6808 Park Avenue Guttenberg, NJ 07093-9991	6808 Park Avenue Guttenberg, NJ 07093-9991
North Hudson Sewerage Authority 1600 Adams Street Hoboken, NJ 07030	North Hudson Sewerage Authority – River Road Wastewater Treatment Plant 6400 Anthony M Defino Way West New York Town, NJ 07030
North Hudson Sewerage Authority 1600 Adams Street Hoboken, NJ 07030	North Hudson Sewerage Authority – Adams Street Wastewater Treatment Plant 1600 Adams Street Hoboken, NJ 07030

Combined Sewer Overflows are discharges from Combined Sewer Systems (CSS). CSSs are sewers that were designed many decades ago to collect rainwater and snowmelt runoff, domestic sewage, and industrial wastewater in the same pipe. CSSs are no longer permitted in New Jersey for new communities, but many older cities in the State continue to operate existing CSSs. Most of the time, the CSSs transport all wastewater to a sewage treatment plant, where it is treated and then discharged to a water body. However, during periods of rainfall or snowmelt, the wastewater volume in a CSS can exceed the hydraulic capacity of the sewer system or treatment plant. For this reason, CSSs were designed to overflow during these periods and discharge excess wastewater directly from CSOs to nearby streams, rivers, or other water bodies prior to reaching the sewage treatment plant.

NJDEP has historically been regulating the majority of discharges from CSOs through authorizations under a Master General Permit NJ0105023 and others through individual permits, consistent with the National Policy for CSO Controls, N.J.A.C. 7:14A-11.12 Appendix C. NJDEP has determined that it is more appropriate to regulate all CSO discharges under individual permits in order to address the site-specific regulatory requirements of each of the permittees and to promote better coordination of a Long Term Control Plan (LTCP) among all permittees contributing to the hydraulically connected systems.

Bergen County Utilities Authority Little Ferry Sewage Treatment Plant

The existing facility discharges treated, disinfected, domestic wastewater with industrial contribution into the Hackensack River, classified as SE2(C2) waters. The Hackensack River is located within the NY/NJ Harbor. The existing facility has a NJPDES flow value of 94 million gallons per day (MGD) and currently discharges a monthly average flow of approximately 79.8 MGD. The loading effluent limitations proposed in this permit for CBOD5 and TSS from November thru April are based on a flow of 84.28 MGD, consistent with the NJPDES/permit modification dated March 25, 2005. All other loading limitations are based on a flow of 75 MGD.

Modification provisions as cited in the permit for monitoring frequency reduction may be initiated in accordance with the provisions set forth in Part IV of the permit and upon written notification from the Department.

Hackensack City CSOs

Hackensack City currently discharges combined sewage from two (2) active CSO outfalls which have solids/floatables removal equipment installed just prior to the discharge. These CSO outfalls discharge into the Hackensack River which is classified as SE1(C2) waters and are located within the NY/NJ Harbor.

Ridgefield Park Village CSOs

Ridgefield Park Village currently discharges combined sewage from six (6) active CSO outfalls which have solids/floatables removal equipment installed just prior to the discharge. These CSO outfalls discharge into the Hackensack River, which is classified as SE1(C2) waters, and Overpeck Brook, which is classified as SE2(C2) waters. Both are located within the NY/NJ Harbor.

Fort Lee Borough CSOs
Fort Lee Borough currently discharges combined sewage from two (2) active CSO outfalls which have solids/floatables removal equipment installed just prior to the discharge. These CSO outfalls discharge into the Hudson River which is classified as SE2(C2) waters and are located within the NY/NJ Harbor.

North Bergen Township Municipal Utilities Authority-Woodcliff
The existing facility discharges treated, disinfected, domestic wastewater with industrial contribution into the Hudson River, classified as SE2(C2) waters. The existing facility has a NJPDES flow value of 2.91 million gallons per day (MGD) and currently discharges a monthly average flow of approximately 3.14 MGD. This action proposes effluent limitations based on a flow of 2.91 MGD.

Modification provisions as cited in the permit for monitoring frequency reduction may be initiated in accordance with the provisions set forth in Part IV of the permit and upon written notification from the Department.

Guttenberg Town CSOs
Guttenberg Town currently discharges combined sewage from one (1) active CSO outfall which has solids/floatables removal equipment installed just prior to the discharge. This CSO outfall discharges into the Hudson River which is classified as SE2(C2) waters and is located within the NY/NJ Harbor.

North Hudson Sewerage Authority-River Road Wastewater Treatment Plant
The existing facility discharges treated, disinfected, domestic wastewater with industrial contribution into the Hudson River via outfall DSN001A. The Hudson River is classified as SE2(C2) waters and is located within the NY/NJ Harbor. The existing facility has a NJPDES permitted flow value of 10 million gallons per day (MGD) and currently discharges a monthly average flow of approximately 9.54 MGD. This action proposes effluent limitations based on a flow of 10 MGD. This individual permit also authorizes the NHSA- River Road WWTP to operate a combined sewer system (CSS) for the collection and conveyance of wastewater. The untreated wastewater from the CSS is discharged to the Hudson River classified as SE2(C2) via two (2) combined sewer overflow (CSO) points.

Modification provisions as cited in the permit for monitoring frequency reduction may be initiated in accordance with the provisions set forth in Part IV of the permit and upon written notification from the Department.

North Hudson Sewerage Authority-Adams Street Wastewater Treatment Plant
The existing facility discharges treated, disinfected, domestic wastewater with industrial contribution into the Hudson River via outfall DSN001A. The Hudson River is classified as SE2(C2) waters and is located within the NY/NJ Harbor. The existing facility has a NJPDES flow value of 20.8 million gallons per day (MGD) and currently discharges a monthly average flow of approximately 12.7 MGD. This action proposes effluent limitations based on a flow of 20.8 MGD. This individual permit also authorizes the NHSA-Adams Street to operate a combined sewer system (CSS) for the collection and conveyance of wastewater. The untreated wastewater from the CSS is discharged to the Hudson River classified as SE2(C2) via eight (8) combined sewer overflows.

Modification provisions as cited in the permit for monitoring frequency reduction may be initiated in accordance with the provisions set forth in Part IV of the permit and upon written notification from the Department.

These above mentioned draft NJPDES permit actions have been prepared for these facilities based on the administrative record filed at the NJDEP, 401 East State Street, Trenton, New Jersey 08625. Copies of the fact sheets which describe in more detail the principal facts and significant considerations examined during the preparation of the draft permit, and the draft permits are posted on NJDEP's website at http://www.nj.gov/dep/dwq/cso.htm. Draft documents are available for inspection, by appointment,

Monday through Friday, between 8:30 A.M. and 4:00 P.M. Appointment for inspection and copies (for a nominal charge) may be requested through the Office of Record Access at (609) 341-3121 or www.nj.gov/dep/opra.

A non-adversarial public hearing has also been scheduled for these eight (8) permits on February 12, 2014, from 3:00 pm to 5:00 pm, or until the end of testimony (whichever comes first) at the City of Hackensack's City Council Chambers at 65 Central Avenue, Hackensack, NJ 07661.

Written comments on these proposals must be submitted in writing to Pilar Patterson, Chief, or Attention: Comments on Public Notice, specifically noted as comments on one or more of the eight(8) permits stated above, Division of Water Quality, Mail Code: 401-02B, Bureau of Surface Water Permitting, P.O. Box 420, Trenton, NJ 08625 by the close of the public comment period, which will close sixty calendar days after publication of this notice in the newspaper or the January 8, 2014 *DEP Bulletin*, whichever is later. All persons, including the applicant, who believe that any condition of this draft document is inappropriate or that the Department's decision to issue this draft document is inappropriate, must raise all reasonable arguments and factual grounds supporting their position, including all supporting materials, during the public comment period.

The NJDEP will respond to all significant and timely comments upon issuance of the final document. The permittee and each person who has submitted written comments, or oral comments at the public hearing, will receive notice of the Department's permit decision.

NEW JERSEY POLLUTANT DISCHARGE ELIMINATION SYSTEM

The New Jersey Department of Environmental Protection hereby grants you a NJPDES permit for the facility/activity named in this document. This permit is the regulatory mechanism used by the Department to help ensure your discharge will not harm the environment. By complying with the terms and conditions specified, you are assuming an important role in protecting New Jersey's valuable water resources. Your acceptance of this permit is an agreement to conform with all of its provisions when constructing, installing, modifying, or operating any facility for the collection, treatment, or discharge of pollutants to waters of the state. If you have any questions about this document, please feel free to contact the Department representative listed in the permit cover letter. Your cooperation in helping us protect and safeguard our state's environment is appreciated.

Permit Number: NJ0020028

Draft: Surface Water Renewal Permit Action

Permittee:
BERGEN COUNTY UTILITIES AUTHORITY
PO BOX 9 – FOOT OF MEHRHOF RD
LITTLE FERRY, NJ 07643

Co-Permittee:

Property Owner:
BERGEN COUNTY UTILITIES AUTHORITY
PO BOX 9 – FOOT OF MEHRHOF RD
LITTLE FERRY, NJ 07643

Location Of Activity:
BERGEN COUNTY UTILITIES AUTHORITY
LITTLE FERRY WATER POLLUTION CONTROL FAC.
298 MEHRHOF RD
LITTLE FERRY, NJ 07643

Authorization(s) Covered Under This Approval	Issuance Date	Effective Date	Expiration Date
A -Sanitary Wastewater	Pending	Pending	Pending

By Authority of:
Commissioner's Office

DEP AUTHORIZATION
Pilar Patterson, Chief
Bureau of Surface Water Permitting
Division of Water Quality

(Terms, conditions and provisions attached hereto)

New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Surface Water Permitting

FACT SHEET

Masterfile #: 14271

PI #: 46121

This fact sheet sets forth the principle facts and the significant factual, legal, and policy considerations examined during preparation of the draft permit. This action has been prepared in accordance with the New Jersey Water Pollution Control Act and its implementing regulations at N.J.A.C. 7:14A-1 et seq. - The New Jersey Pollutant Discharge Elimination System.

PERMIT ACTION: Surface Water Renewal Permit Action

The permittee has applied for a New Jersey Pollutant Discharge Elimination System (NJPDES) Surface Water Renewal Permit Action through an application dated April 12, 2007. This Surface Water Renewal Permit Action serves to renew the Bergen County Utilities Authority's individual Category "A" Permit NJ0020028 as well as to incorporate updated Combined Sewer Overflow (CSO) requirements. The CSO requirements can be found in Section 10 of this fact sheet.

The BCUA facility discharges treated, disinfected, domestic wastewater with industrial contribution into the Hackensack River, classified as SE-2 waters. The Hackensack River is a tributary to the Newark Bay which is located within the Passaic, Hackensack and New York Harbor Complex basin. The existing facility has a NJPDES flow value of 94 million gallons per day (MGD) and currently discharges a monthly average flow of approximately 79.8 MGD. The loading effluent limitations proposed in this permit for CBOD5 and TSS from November thru April are based on a flow of 84.28 MGD, consistent with the NJPDES/permit modification dated March 25, 2005. All other loading limitations are based on a flow of 75 MGD.

1 Name and Address of the Applicant:

Bergen County Utilities Authority
PO Box 9 – Foot of Mehrhof Road
Little Ferry, NJ 07643

2 Name and Address of the Facility/Site:

Bergen County Utilities Authority
Little Ferry Water Pollution Control Facility
298 Mehrhof Road
Little Ferry Boro, Bergen County

3 Receiving Water Discharge Location Information:

A copy of the appropriate section of a United States Geological Survey (USGS) quadrangle map indicating the location of the facility and discharge point is included towards the end of this Fact Sheet.

Outfall Designator: 001A

General Information		Watershed Information	
Receiving Water:	Hackensack River	Downstream Confluences:	Newark Bay
Via :	An open channel	Receiving River Basin:	Hackensack River
Classification (a):	SE-2	WMA (b):	Hackensack, Pascack, Hudson (Bergen)
Latitude:	40° 49' 54"	Watershed:	Hackensack River (below/incl. Hirshfeld Bk.)
Longitude:	74° 01' 57"	Subwatershed:	Hackensack River Bellmans Ck. To Ft. Lee Rd.
County:	Bergen	HUC 14 (c):	02030103180050

Municipality:	Little Ferry	Water Quality Impairments (d):	Ammonia (un-ionized), DO, Benzo(a)pyrene, Chlordane, DDD, DDE, DDT, Dieldrin, Dioxin (incl. 2,3,7,8-TCDD), Mercury and PCB

Outfall Description			
Outfall Configuration:	An open channel	Submerged Pipe Characteristics:	*N/A*

Applicable Receiving Water Dilution Factors	
Acute :	4.7
Chronic :	6.2
Human Health Non-Carcinogen	6.0
Human Health Carcinogenic	12.6

Footnotes:
(a) The designated uses for this waterbody classification can be found at N.J.A.C. 7:9B-1.12.
(b) WMA = Watershed Management Area
(c) HUC 14 = 14 digit Hydrologic Unit Code
(d) These parameters are listed as impaired for this waterbody as per New Jersey's 2010 Integrated Water Quality Monitoring and Assessment Report (includes 305(b) Report and 303(d) List).

As per the Surface Water Quality Standards at N.J.A.C. 7:9B, the designated uses for the Saline Estuary 2 (SE2), receiving waters are:

1. Maintenance, migration and propagation of the natural and established biota;
2. Migration of diadromous fish;
3. Maintenance of wildlife;
4. Secondary contact recreation; and
5. Any other reasonable uses.

As noted in Section 3 above, this segment of the Hackensack River is impaired for Ammonia (un-ionized), DO, Benzo(a)pyrene, Chlordane, DDD, DDE, DDT, Dieldrin, Dioxin (incl. 2,3,7,8-TCDD), Mercury and PCB. This facility discharges Ammonia, DO and Mercury through outfall 001A and effluent limitations are included in the permit. Section 6L of this fact sheet contains requirements for PCB, Benzo(a)pyrene, Chlordane, DDD, DDE, DDT, Dieldrin, Dioxin (incl. 2,3,7,8-TCDD) were not quantified in the effluent.

4 Facility Description:

The facility is classified as a major discharger by the Department of Environmental Protection (Department) in accordance with the United States Environmental Protection Agency (EPA) rating criteria and has a delegated pretreatment program.

Sanitary wastewater with industrial contribution is processed through the following units:

1. screening
2. grit removal
3. primary settling
4. activated sludge (contact stabilization)
5. secondary settling
6. chlorine disinfection (sodium hypochlorite)
7. dechlorination (sodium bisulfite)

Via an open channel, treated wastewater is discharged through DSN001 to the Hackensack River, which is classified as SE-2 waters in accordance with N.J.A.C. 7:9B-1 et seq. The outfall configuration for DSN 001, is a trapezoidal cross section open channel and has a permanently submerged discharge point.

Sludge management consists of: gravity thickening, anaerobic digestion, and sludge holding before being managed at an approved off-site residuals management site, and is now regulated under NJPDES permit NJG0198005, which became effective on January 1, 2012.

BCUA also reuses approximately 0.5 MGD to 2.0 MGD of treated wastewater by routing it to PSE&G as cooling water at the facility.

A USGS quadrangle map indicating the location of the facility and discharge point(s) and a facility diagram is included at the end of this Fact Sheet.

5 Type and Quantity of the Wastes or Pollutants:

The Permit Summary Table near the end of this fact sheet contains a summary of the quantity and quality of pollutants treated and discharged from the facility and the proposed effluent limitations. Effluent data was obtained from the facility's Monitoring Report Forms for the time period specified in the table and the application submitted by the applicant.

6 Summary of Permit Conditions:

The proposed effluent limitations and other pertinent information regarding the draft permit are described below:

A. Basis for Effluent Limitations and Permit Conditions - General:

The effluent limitations and permit conditions in this permit have been developed to ensure compliance with the following, as applicable:

1. NJPDES Regulations (N.J.A.C. 7:14A),
2. New Jersey Surface Water Quality Standards (N.J.A.C. 7:9B),
3. New Jersey's 2010 Integrated Water Quality Monitoring and Assessment Report (includes 305(b) Report and 303(d) List),
4. Secondary Treatment Standards (40 CFR Part 133, N.J.A.C. 7:14A-12.2 and -12.3),
5. Existing permit limitations in accordance with N.J.A.C. 7:14A-13.19 and 40 CFR 122.44 (antibacksliding requirements),
6. Permit limitations in accordance with N.J.A.C. 7:9B-1.5(d) (antidegradation requirements),
7. Statewide Water Quality Management Planning Rules (N.J.A.C. 7:15),
8. Sludge Quality Assurance Regulations (N.J.A.C. 7:14C),
9. Pretreatment Requirements (N.J.A.C. 7:14A-19)

In accordance with N.J.A.C. 7:14A-13.5, Water Quality Based Effluent Limitations (WQBELs) are imposed when it has been determined that the discharge of a pollutant causes an excursion of criteria specified in the New Jersey Surface Water Quality Standards (SWQS), N.J.A.C. 7:9B-1.1 et seq., and the Federal Water Quality Standards, 40 CFR Part 131. WQBELs are authorized by Section 301 of the Clean Water Act, 40 CFR 122, N.J.S.A. 58:10A-4, and N.J.A.C. 7:14A-13.2 and 13.3. The procedures used to develop WQBELs are contained in the State and Federal Standards. Specific procedures, methodologies, and equations are contained in the current USEPA "Technical Support Document for Water Quality-based Toxics Control" (TSD) (EPA- 505/2-90-001) and are referenced in N.J.A.C. 7:14A-13.5 and 13.6.

Expression of all effluent limitations is in accordance with N.J.A.C. 7:14A-13.14 and 13.15.

Whole effluent toxicity is expressed as a minimum as percent effluent.

Loading limitations (kg/day or g/day) are calculated by multiplying the flow value of 75 million gallons per day (MGD) for summer loading limitations and 84.28 MGD for winter loading limitations for CBOD5 and TSS by the conversion factor of 3.785 (L/gal) and the appropriate concentration limitation (mg/L or µg/L).

B. Basis and Derivation for Effluent Limitations and Monitoring Requirements- Specific:

All permit limitations and conditions in this permit action, are equal to or more stringent than those contained in the existing permit action that were effective, except for Cyanide and Chlorine Produced Oxidants as explained below. As a result, this permit action satisfies the federal and state anti-degradation regulations at 40 CFR 131.12 and N.J.A.C. 7:9B-1.5(d), and no further anti-degradation analysis is necessary.

Monitoring frequencies and sample types are in accordance with N.J.A.C. 7:14A-14, unless specified otherwise in the permit. In accordance with N.J.A.C. 7:14A-14.2, the permittee may submit a written request for a modification of the permit to decrease monitoring frequencies for non-limited parameters listed in Part III if site specific conditions indicate the applicability of such a modification.

1. Flow: This permit action does not include a numerical limitation for flow. Monitoring conditions are applied pursuant to N.J.A.C. 7:14A-13.13. The loading effluent limitations proposed in this permit for CBOD5 and TSS from November thru April are based on a flow of 84.28 MGD, consistent with the NJPDES/DSW permit modification dated March 25, 2005. All other loading limitations are based on a flow of 75 MGD.

2. 5-Day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$): The concentration limitations are based on the definition of secondary treatment 40 CFR 133.102(a) (4) (i) and (ii) and N.J.A.C. 7:14A-12.2 (c) 1. and 2. Percent removal limitations are based on the definition of secondary treatment 40 CFR 133.102(a)(4)(iii) and N.J.A.C. 7:14A-12.2(c) 3. These limitations are consistent with the antibacksliding provisions as cited in N.J.A.C 7:14A-13.19.

   The monitoring frequency is 1/Day with a 24-Hour composite sample type.

3. Total Suspended Solids (TSS): The concentration limitations are based on the definition of secondary treatment at 40 CFR 133.102 (b) (1) and (2) and N.J.A.C. 7:14A-12.2(e) 1 and 2. Percent removal limitations are based on the definition of secondary treatment at 40 CFR 133.102(b)(3) and N.J.A.C. 7:14A-12.2(e) 3. These limitations are consistent with the antibacksliding provisions as cited in N.J.A.C 7:14A-13.19.

   The monitoring frequency is 1/Day with a 24-Hour composite sample type.

4. pH: The effluent limitations are based on the definition of secondary treatment at 40 CFR 133.102(c) and N.J.A.C. 7:14A-12.2 (f) and are consistent with the antibacksliding provisions as cited in N.J.A.C 7:14A-13.19.

   The monitoring frequency is 6/Day with a Grab sample type.

5. Temperature: As authorized by N.J.A.C. 7:14A-6.2(a)14, monitoring and reporting requirements for temperature are included in the permit.

   The monitoring frequency is 6/Day with a Grab sample type.

6. Fecal Coliform: The limitations are based on N.J.A.C. 7:14A-12.5(b) 1. and 2.

   The monitoring frequency is 1/Day with a Grab sample type.

7. Dissolved Oxygen (DO): The Department would like to note that DO is listed on the New Jersey 2010 Integrated Water Quality Monitoring and Assessment Report (integrated list) as having water quality violations for the reach of the receiving stream in which the permittee discharges. The Department has applied the applicable surface water quality criteria as an effluent limitation thus adequately protecting against further degradation of the receiving stream. The effluent limitation is based on the Surface Water Quality Standards at N.J.A.C. 7:9B-1.14(c).

The monitoring frequency is 1/Day with a Grab sample type.

8. Oil and Grease: The effluent limitations are based on N.J.A.C. 7:14A-12.8(c).

   The monitoring frequency is 2/Week with a Grab sample type.

9. Chlorine Produced Oxidants (CPO): The water quality based effluent limitations were calculated by the procedures set forth in the USEPA Technical Support Document. Consistent with the recommendations set forth in the USEPA Technical Support Document (Section 5.5.2), the Department utilized a default Coefficient of Variation (CV) of 0.6 for the analysis.

   Using the steady state mass balance equation, wasteload allocations were developed utilizing the applicable criteria specified in the New Jersey Surface Water Quality Standards (SWQS) at N.J.A.C. 7:9B, pollutant specific upstream concentrations (when available), the permittee's NJPDES flow value of 75 MGD, and dilution factors from the water quality study dated June 29, 2009, titled "Bergen County Utilities Authority Wastewater Treatment Plant Effluent Dilution Study" and addendum dated July 3, 2013 submitted by Kleinfelder-Omni Environmental.

   For acute and chronic calculations, long term average values were developed using the 99th percentile multiplier and the more stringent results were utilized in calculating the maximum daily limitation (MDL) and average monthly limitations (AML). As per N.J.A.C. 7:14-A-13.14(a)2, limitations shall be expressed as concentration and mass loading. Refer to the table below for the input data and calculation results, and the Calculations Equations section of the fact sheet for additional reference.

Data Input and Calculation Results :

All concentration units in ug/L	Acute	Chronic
Upstream concentration, (Cup)	0.0	0.0
Effluent flow (cfs)	116	116
Predetermined Dilution Factors (Df)	4.7	6.2
Surface Water Quality Criteria, (Ci)	13	7.5
Wasteload Allocation, (WLA)	61.1	46.5
Coefficient of Variation (CV)	0.6	0.6
WLA multiplier for LTA	0.321	0.527
Long Term Average, (LTA)	19.62	24.52
More stringent LTA	19.62 Acute	
LTA multiplier for MDL	3.114	
LTA multiplier for AML	1.896	
Maximum Daily Limitation, (MDL)	61.1	
Average Monthly Limitation, (AML)	37.2	

Where the WQBELs are more stringent than the quantification limit (i.e. 0.1 mg/L), effluent compliance will be determined by comparing the reported value against the applicable quantification limit. Therefore, the enforceable daily maximum and monthly average concentration limitation is 0.1 mg/L and the enforceable monthly average and daily maximum loading limitation is 28.4 kg/day using a flow value of 75 MGD..

The monitoring frequency is 6/Day with a Grab sample type.

10. Ammonia (Total as N): The New Jersey 2010 303(d) list included the stream segment into which BCUA discharges as impaired for unionized ammonia.

    Under USEPA Contract EP-C-08-003, Hydroqual, Inc. prepared a report dated September 20, 2010 entitled, "Evaluation of Ammonia toxicity in the NY/NJ Harbor within the context of Nitrogen and Carbon TMDL Planning for Attainment of Dissolved Oxygen Standards". As per the report, though under average observed

pH conditions, all Harbor waters should achieve unionized ammonia standards, there are some areas of the Harbor having the potential for violating standards under observed elevated pH conditions. As indicated in the report, due to the ongoing New York DEP and NJ Harbor Discharge Group monitoring program as part of the harbor study, additional instream data will be collected to assess the Hackensack River for making 303(d) listing decisions for unionized ammonia in the future.

Therefore, no effluent limitations for ammonia-N are proposed in the permit at this time. However, BCUA shall monitor and report Ammonia.

The monitoring frequency is 1/Day with a 24-Hour composite sample type.

11. Alkalinity: Monitoring and reporting requirements for alkalinity are included to determine the need for ammonia toxicity-based effluent limitations and to monitor compliance with the instream un-ionized ammonia criteria.

The monitoring frequency is 1/Day with a 24-Hour composite sample type.

12. Whole Effluent Toxicity (WET): Section 101(a) of the Clean Water Act (CWA) establishes a national policy of restoring and maintaining the chemical, physical and biological integrity of the Nation's waters. In addition, section 101(a)(3) of the CWA and the State's Surface Water Quality Standards (SWQS) at N.J.A.C. 7:9B-1.5(a)4 state that the discharge of toxic pollutants in toxic amounts is prohibited. Further, 40 CFR 122.44(d) and N.J.A.C. 7:14A-13.6(a) require that where the Department determines using site-specific WET data that a discharge causes, shows a reasonable potential to cause, or contributes to an excursion above the SWQS, the permitting authority must establish effluent limits for WET. In order to satisfy the requirements of the CWA, the State's SWQS and the NJPDES Regulations, the need for a water quality based effluent limitation (WQBEL) for WET was evaluated for this discharge.

In order to determine the need for a WET WQBEL, the Department has analyzed all available WET effluent data. In general, an acceptable data set consists of, at a minimum, 10 data values including the most recent 2½ years of data collection. Based on the review of the applicable data set, the Department has concluded the following:

- After review of the applicable data set, WET was found in quantifiable amounts in the effluent. Therefore, further analyses have been conducted for WET.

Cause Analysis:

For WET, a cause analysis was conducted in accordance with N.J.A.C. 7:14A-13.5. When the maximum effluent value (in toxic units) exceeds the applicable site specific wasteload allocation (in toxic units), the discharge is shown to cause an exceedance of the surface water quality standards.

Using the steady state mass balance equation, acute and chronic wasteload allocations of 1.41 and 6.20 TU_cs respectively, were developed utilizing the narrative criteria for toxic substances (general) specified in the New Jersey Surface Water Quality Standards (SWQS) at N.J.A.C. 7:9B, and acute and chronic dilution factors of 4.7 and 6.2 respectively, from the water quality study dated June 29, 2009, titled "Bergen County Utilities Authority Wastewater Treatment Plant Effluent Dilution Study" and addendum dated July 3, 2013 submitted by Kleinfelder-Omni Environmental. Consistent with the recommendations of section 2.3.3 of the TSD, values of 0.3 acute toxic unit (TU_a) and 1.0 chronic toxic unit (TU_c) were used to interpret the narrative water quality criteria for WET contained at N.J.A.C. 7:9B-1.14(c) (see Response to Comments 13-74 through 13-89, 29 NJR 1861, (May 5, 1997)).

Effluent data for the time period of 3/08 through 1/13 was utilized for this analysis.

Review of the chronic WET data set indicates the maximum effluent data value to be 4.01 TU_cs (i.e. an IC25 = 24.9 %). Since the maximum reported effluent data value does not exceed the applicable site

specific wasteload allocation of 6.20 TU_cs, the discharge does not cause an exceedance of the chronic interpretation of the narrative criteria for WET identified in the surface water quality standards.

Reasonable Potential to Cause:

For WET, a reasonable potential to cause analysis was conducted in accordance with N.J.A.C. 7:14A-13.5. When the projected maximum effluent value (in toxic units) exceeds the applicable site specific wasteload allocation (in toxic units), the discharge is shown to have reasonable potential to cause or contribute to an exceedance of the surface water quality standards.

The projected maximum effluent value was calculated utilizing the procedures specified in section 3.0 of the USEPA *Technical Support Document for Water Quality-based Toxics Control* (TSD).

For this analysis, the chronic reasonable potential multiplying factor (R.P.M.F.) of 1.2 was based on the number of data values in the applicable database specified above (25 data values), a site specific coefficient of variation (CV) of 0.35, a 95% confidence level and a 95% probability basis (refer to Table 3.1 of USEPA's TSD). Multiplying the R.P.M.F. with the maximum data value of 4.01 TU_cs, from the above cause analysis, results in a projected maximum data value of 4.80 TU_cs. Since the projected maximum data value does not exceed the applicable site specific wasteload allocation of 6.20 TU_cs, the discharge does not have reasonable potential to cause an exceedance of the chronic interpretation of the narrative criteria for WET identified in the surface water quality standards.

Water Quality Based Effluent Limitation Derivation:

Since the discharge was not found to cause or have reasonable potential to cause an exceedance of the chronic interpretation of the narrative criteria for WET identified in the surface water quality standards, no new WQBELs have been calculated in this permit action.

Therefore, the existing chronic WQBEL of 16% is being removed from the permit at this time. However, chronic monitoring and reporting requirements have been included in this permit action based on N.J.A.C. 7:14A-13.5(k)3 and the need to re-evaluate the necessity for WQBELs upon renewal of the permit (based on the recommendations of section 3.1 of the EPA Technical Support Document). In addition, the continued monitoring for chronic toxicity will provide adequate information to ensure that the effluent characteristics have not changed such that they cause or have the reasonable potential to cause an exceedance of the narrative water quality standard.

Antibacksliding/Antidegradation:

The water quality criteria for toxicity in the SWQS does not establish an acceptable level of toxicity for a receiving water, but rather requires no toxics in toxic amounts. Since WET limitations are not expressed as concentrations or loadings that can be related to an instream concentration or mass, but rather as a measure of the aggregate toxicity of the effluent, any change in quality of the receiving waters must be measured using the SWQS directly. Therefore, the Department is justified in removing the WET limitation in this fashion. As such, there will be no change in instream toxicity as a result of the change in the effluent limitation so that the antidegradation requirements set forth in N.J.A.C. 7:9B-1.5(d) are satisfied and further antidegradation analysis is not required.

The test species method to be used for chronic testing shall be the *Mysidopsis bahia,* Survival, Growth, and Fecundity Test, 40 CFR 136.3, method 1007.0. Such selection is based on the saline characteristics of the receiving stream, the existing permit, N.J.A.C. 7:9B-1.5 and the Departments "Chronic Toxicity Testing Specifications for Use in the NJPDES Permit Program" document. This document is included as Appendix A of this permit, in accordance with N.J.A.C. 7:14A-6.5, 11.2(a)2.iv. and 40 CFR Part 136.

Effluent samples for conducting WET testing are to be collected after the last treatment step, consistent with the collection location for all other parameters.

The monitoring frequency is quarterly and is consistent with N.J.A.C. 7:14A-14.2(a).

13. Foam: The narrative foam permit condition is based on N.J.A.C. 7:14A-12.6.

14. Toxic Metals, Organic Compounds, and Cyanide: In accordance with N.J.A.C. 7:14A-13.6(a), a water quality based effluent limitation (WQBEL) shall be imposed when the Department determines pursuant to N.J.A.C. 7:14A-13.5 that the discharge of a pollutant causes an excursion above a Surface Water Quality Standards (SWQS). Furthermore, The New Jersey Water Pollution Control Act as amended (N.J.S.A. 58:10A-7b(3)), commonly called the Clean Water Enforcement Act (CWEA) and N.J.A.C. 7:14A-6.16(a) direct the Department to include in NJPDES permits issued to delegated POTWs with an approved pretreatment program, effluent limitations for all regulated pollutants listed under the USEPA's Categorical Pretreatment Standards, adopted pursuant to 33 U.S.C., section 1317, and such other pollutants for which local discharge limitations have been established for a permittee discharging into the Bergen County Utilities Authority Wastewater Treatment Plant that are discharged from the facility above detectable levels. Bergen County Utilities Authority has an approved pretreatment program and is a delegated POTW. The following pollutants are regulated by the permittee on its users: **Acrolein, Benzene, Chlorobenzene, Chloroethane, Chloroform, 1,4-Dichlorobenzene, 1,1-Dichloroethane, 1,2-Dichloroethane, 1,2-TransDichloroethylene, 1,2-Dichloropropane, Ethylbenzene, Methylene Chloride, Tetrachloroethylene, Toluene, 1,1,1-Trichloroethane, Trichloroethylene, Vinyl Chloride, Oil & Grease (petroleum based), Oil & Grease (non-petroleum based), Bis (2-ethylhexyl) phthalate, 1,2-Dichlorobenzene, 1,1-Dichloroethylene, Diethyl phthalate, Dimethyl phthalate, Di-n-butyl phthalate, Napthalene, 2-Nitrophenol, Acetone, Chromium, Copper, Lead, Nickel, Silver, Cyanide, Cadmium, Zinc.**

In order to determine the need for toxic pollutant specific WQBELs, the Department has analyzed all effluent data sets made available to the Department. Acceptable data sets generally consist of, at a minimum, 10 data values including the most recent 2½ years of data collection. A pollutant is considered discharged in "quantifiable amounts" when an exact amount of that pollutant is measured equal to or above the detection level reported by a laboratory analysis (refer to the "NJPDES Monitoring Report Form Reference Manual, Revised December 2007" available on the Division of Water Quality website at http://www.state.nj.us/dep/dwq/pdf/MRF_Manual.pdf for further information). Based on the review of the data sets, the Department has concluded the following:

- After review of the applicable data sets, most of the toxic pollutants with the exception of those pollutants mentioned below in this section were not found to be discharged in the effluent. These toxic pollutants do not have effluent limitations proposed in the draft permit at this time. However, monitoring and reporting requirements have been included in this permit action based on N.J.A.C. 7:14A-13.5(k)3 and the need to re-evaluate the necessity for WQBELs upon renewal of the permit (based on the recommendations of section 3.1 of the EPA Technical Support Document). Refer to the effluent monitoring frequency section of the fact sheet for frequency specifications.

- After review of the applicable data sets, **Mercury** was found to be discharged in quantifiable amounts in the effluent. Please note that this parameter is listed in the *New Jersey 2010 Integrated Water Quality Monitoring and Assessment Report (integrated list)* as having water quality violations for the reach of the receiving stream in which the permittee discharges. The limitations and monitoring conditions for Total Recoverable Mercury are based on the Total Maximum Daily Load (TMDL) developed by USEPA as a federal action. This Federal promulgation results in the incorporation of the TMDL into State Water Quality Management Plans. Therefore, this permit carries over the Existing Effluent Quality (EEQ) limitation on the Phase 1 TMDL incorporated in the previous permit. The phase 1 TMDL is based on existing loads for all significant point sources. The effluent limitations are consistent with the anti-backsliding regulations set forth in N.J.A.C. 7:14A-13.19 and 40 CFR Part 122.44.

- After review of the applicable data sets **Chloroform, Methylene Chloride, Toluene, Butylbenzyl Phthalate, Diethyl Phthalate, Total Recoverable Copper, Manganese, Nickel, Zinc, Arsenic, Cadmium** and **Lead** were found to be discharged in quantifiable amounts in the effluent. Therefore, further analyses have been conducted on all of these pollutants. In addition, **1,4 Dichlorobenzene, Trichloroethylene, Cyanide,** and **Total Recoverable Silver** were regulated in the previous permit, but were well below the criteria used to regulate these parameters. However, further analyses have been conducted on all of these pollutant(s). Therefore, no further analysis have been conducted on these pollutants.

Quantified Pollutant Analysis Methodology:

For each pollutant discharged in quantifiable amounts in the effluent, a cause analysis was conducted using the procedures specified in the USEPA Technical Support Document in accordance with N.J.A.C. 7:14A-13.5. The cause analysis consists of a comparison between the pollutant's maximum effluent concentration value (or average value of a long term data set in the case of criteria with an averaging period longer than one year) and the pollutant's applicable site specific wasteload allocation.

Using the steady state mass balance equation, wasteload allocations were developed utilizing the applicable surface water quality criteria, pollutant specific upstream concentrations (when available), and dilution factors that were used from the water quality study dated June 29, 2009, titled "Bergen County Utilities Authority Wastewater Treatment Plant Effluent Dilution Study" and addendum dated July 3, 2013 submitted by Kleinfelder-Omni Environmental.

For the applicable pollutants (**Total Recoverable Arsenic, Cadmium, Copper, Lead, Nickel,** and **Zinc**), the applied criteria is based on a default water effect ratio (WER) of 1.0.

For the applicable metals, default/site specific translators were utilized to convert total recoverable data to its dissolved equivalent for the cause analyses for aquatic criteria, and, if applicable, to convert the dissolved long term averages to total recoverable values for determining WQBELs. Translator values for the parameters listed below, if not site specific, are based on the conversion factors for dissolved metals at 40 CFR Part 131 and N.J.A.C. 7:9B-1.5(c)6. The default metal translators used in the analyses are as follows:

Metal	Fresh Water		Saline Water	
	Translator (acute)	Translator (chronic)	Translator (acute)	Translator (chronic)
Arsenic	1.000	1.000	1.000	1.000
Cadmium	0.944*	0.909*	0.994	0.994
Copper	0.960	0.960	0.830	0.830
Lead	0.791*	0.791*	0.951	0.951
Nickel	0.998	0.997	0.990	0.990
Zinc	0.978	0.986	0.946	0.946

* Conversion factors for cadmium and lead are hardness dependent. Values shown are at a hardness of 100 mg/L of calcium carbonate.

Cadmium Acute Metal Translator = 1.136672 – [ln(hardness)(0.041838)]
Cadmium Chronic Metal Translator = 1.101672 – [ln(hardness)(0.041838)]
Lead Acute and Chronic Metal Translator = 1.46203 – [ln(hardness)(0.145712)]
N/A = Not Applicable

Quantified Pollutant Analysis Results:

Cause analyses were conducted on **Chloroform, Methylene Chloride, Toluene, Butylbenzyl Phthalate, Diethyl Phthalate, Total Recoverable Copper, Manganese, Nickel, Zinc, Arsenic, Cadmium** and

Lead. As a result of the cause analyses, only **Copper** and **Arsenic** were found to cause an excursion of the SWQS. The Department's conclusions and results are listed below. Refer to Table A at the back of the Fact Sheet for a summary of the effluent limitation analysis for the Toxic Metals, Organic Compounds, and/or Cyanide.

- Since the discharge of **Total Recoverable Copper** and **Arsenic** in the permittee's effluent were found to cause an excursion of the SWQS, WQBELs are proposed in the draft permit for these parameters in accordance with N.J.A.C. 7:14A-13.6(a).The effective date of these limitations will be at EDP + 59 months with a monitor and report requirement during the interim.

- The discharge of **Total Cyanide** has not been detected in the permittee's effluent for at least more than 5 years. As per BCUA's request and with the Department's consent in a letter dated April 29, 2008, the Department is removing the effluent limitation. Removing the limitations is consistent with the antibacksliding provisions as cited in N.J.A.C 7:14A-13.19 as the effluent limitation imposed in the previous permit was stayed and Cyanide was not quantified in the facility's effluent. However, monitoring and reporting requirements have been included in this permit action.

- The effluent limitation for **Total Recoverable Nickel** imposed in the NJPDES/DSW permit issued on August 16, 2002 contained a monthly average limitation of 3.6 ug/l consistent with the adopted TMDL (Federal Register Volume 65 No. 10 issued January 14, 2000). As indicated in the Register, this TMDL was required since analyses of ambient data and modeling projections in the Hackensack River indicated that the outfall Nickel criterion of 8.2 ug/l (expressed in the dissolved form) was likely to be exceeded. However, in a memorandum dated April 30, 2004 from Mr. Mick Degraves of the Great Lakes Environmental Clinic (GLEC) to Mr. Kevin Bricke of USEPA Region II a request was made to revise the chronic nickel saltwater standard of 8.2 ug/l to 22 ug/l. After reviewing the supporting documentation, in a letter dated April 30, 2004, USEPA provided guidance to the Watershed Permitting Element regarding the correction of the proposed new saltwater criteria. USEPA had concluded that based on its review of the information provided by GLEC, the proposed criterion appeared to be scientific defensible. Based on USEPA's guidance, on October 16, 2006, the New Jersey Surface Water Quality Standards were revised and a new standard for Nickel was adopted on March 15, 2007. The NJDEP then issued a stay of the proposed Nickel limitation of 3.6 ug/l, which was to become effective on April 1, 2007. The proposed Nickel limitation for this permit is discussed below (CWEA Limitations).

CWEA Limitations:

- Although the discharge of **Chloroform, Methylene Chloride, Toluene, Butylbenzyl Phthalate, Diethyl Phthalate, Total Recoverable Nickel, Manganese, Zinc, Cadmium** and **Lead** were not found to cause or have a reasonable potential to cause an excursion of the SWQS, final effluent limitations have been included for these parameters based on the CWEA. The CWEA and N.J.A.C. 7:14A-6.16(a) states that due to the delegated status of this facility and the fact that these pollutants are limited on its users as well as being detected in the permittee's effluent, the permit for the delegated local agency shall include effluent limitations for all pollutants. Therefore, limitations for the following parameters have been included, and are calculated in accordance with the WQBEL procedures in the TSD. Based on the review of the effluent data, the Department has determined that the permittee can reliably achieve compliance with the proposed limits for these parameters. No compliance schedule has been allowed and these limitations shall become effective on the effective date of the permit.

Water Quality Based Effluent Limitations:

In accordance with N.J.A.C. 7:14A-6.4(a), a schedule to achieve compliance with the new WQBELs for **Total Recoverable Copper** and **Arsenic** has been included in this permit. Interim monthly average and daily maximum monitoring and reporting requirements have been included for **Total Recoverable Copper** and **Arsenic** as authorized by N.J.A.C. 7:14A-6.2(a)14. During the compliance schedule period,

the permittee is required to submit progress reports in accordance with N.J.A.C. 7:14A-6.4(a)2ii and 13.17(a)7. Refer to the Compliance Schedule section of this fact sheet for further clarification. Upon submission of the information outlined in Part IV Section G, the Department may consider proposing a modification to this permit to remove or modify the effluent limitations proposed for the toxic pollutants.

For continuous discharges, N.J.A.C. 7:14A-13.15(a)3 states, "limitations on any pollutant or pollutant parameter where the monitoring frequency is once per month or less may be stated as a maximum daily limitation". The USEPA commented on this NJPDES regulation via a memo dated September 16, 2010 from Barbara A. Finazzo, Director, Division of Environmental Planning and Protection, USEPA-Region 2 to John Plonski, Assistant Commissioner for Water Resources Management, NJDEP.

USEPA noted in the memo that to ensure consistency with the federal regulations, New Jersey must establish permit limitations to provide both short-term and long-term controls to ensure water quality standards are met.

Therefore, in situations where monitoring frequency is once per month or less, as required by USEPA and consistent with section 5.5.3 of the TSD, the statistical procedure is employed using n (number of samples)= 4 to derive the average monthly limitation.

Consistent with N.J.A.C. 7:14A-13.6(a), the water quality based effluent limitations were calculated using the procedures set forth in the USEPA Technical Support Document (TSD). Consistent with the recommendations set forth in Appendix E of the USEPA Technical Support Document, the Department utilized a site-specific Coefficient of Variation (CV) based on the lognormal distribution statistics for Chloroform, Toluene, Copper, Manganese, and Zinc, and the delta-lognormal distribution for Mercury, Nickel and Silver. Consistent with the recommendations set forth in the USEPA Technical Support Document (Section 5.5.2), the Department utilized a default Coefficient of Variation (CV) of 0.6 for the analysis for 1,4 Dichlorobenzene, Methylene Chloride, Tertachloroethylene, Trichloroethylene, Arsenic, Butylbenzyl Phthalate, Cadmium, Diethyl Phthalate, Lead and Chlorine Produced Oxidants.

For aquatic criteria based calculations (i.e. acute and chronic), long term average values are developed from the waste load allocations using the 99th percentile multipliers calculated using the equations set forth in Table 5-1 of the USEPA TSD. The more stringent long term average value was then utilized in calculating the maximum daily limitation (MDL) and average monthly limitations (AML). For human health criteria based calculations (carcinogenic and non-carcinogenic), the waste load allocation is set equal to the average monthly limitation (AML) consistent with the recommendations of Section 5.4.4 of the USEPA TSD. The maximum daily limitation (MDL) is developed from the AML utilizing a MDL-to-AML multiplier calculated in accordance with the equations set forth in Table 5-3 of the USEPA TSD based on a 99th percentile exceedance probability for the MDL and AML. The more stringent MDL/AML combination resulting from a comparision between the aquatic and human health results is established as the applicable WQBELs. As authorized by N.J.A.C. 7:14A-13.15(a)3, only a monitoring and reporting requirement was included for the monthly average. In accordance with N.J.A.C. 7:14-A-13.14(a)2, effluent limitations are expressed as concentration and mass loading. The limitations for the metal parameters are expressed in the total recoverable form in accordance with 40 CFR 122.45(c). As authorized by N.J.A,C. 7:9B-1.5(e)5, where the WQBEL is more stringent then the quantification limit, effluent compliance will be determined by comparing the reported value against the applicable quantification limit.

As authorized by N.J.A.C. 7:14A-6.2(a)14, the monitoring frequency for the *toxic pollutant parameters* has been established at annually. In satisfying the recommendations of section 3.1 of the EPA Technical Support Document, it is the Department's position that annual monitoring for the specified pollutant{s} will provide sufficient up-to-date data to re-evaluate the necessity for WQBELs upon renewal of the permit.

Because of the delegated status of the facility, effluent monitoring of at least annually for the priority pollutants as noted under N.J.A.C. 7:14A-4 et seq, Appendix A, Table II and III, is required in accordance with N.J.S.A. 58:10A-6(n) and N.J.A.C. 7:14A-19.3(c)7. The effluent characterization monitoring data will be

used at the time of the next permit action to evaluate whether effluent limitations need to be incorporated into the permit based on the Clean Water Enforcement Act.

C. Influent and Effluent Monitoring Requirements:

In order to calculate percent removals, influent monitoring is required for $CBOD_5$ and TSS in accordance with N.J.A.C. 7:14A-6.5(b) and -11.2(a) 2. Consistent with the intent of 40 C.F.R. 403.5 and as authorized by the provisions of N.J.A.C. 7:14A-6.3(a), the monitoring requirements for influent pH and temperature are included in the permit.

The annual influent monitoring requirement of the priority pollutants as noted under N.J.A.C. 7:14A-4 et seq, Appendix A, Table II and III, is required in accordance with N.J.S.A. 58:10A-6(n) and N.J.A.C. 7:14A-19.3(c)7. The influent monitoring is required to evaluate the loading to the treatment plant to generate the percent removal data.

D. Recommended Quantitation Levels Policy (RQLs):

The Department developed the RQLs to insure that useful data is provided to the Department in order to characterize the discharger's effluent. The Department recommends that the permittee achieve detection levels that are at least as sensitive as the RQLs found in Part III. The Department has determined that the quantitation levels listed therein can be reliably and consistently achieved by most state certified laboratories for most of the listed pollutants using the appropriate procedures specified in 40 CFR Part 136. FAILURE TO ATTAIN A QUANTITATION LEVEL AS SENSITIVE AS A LISTED RQL IS NOT A VIOLATION OF THE PERMIT, BUT DOES TRIGGER SOME ADDITIONAL REPORTING REQUIREMENTS FOR THE PERMITTEE AS SPECIFIED IN PART IV OF THE PERMIT.

E. Reporting Requirements:

All data requested to be submitted by this permit shall be reported on the Discharge Monitoring Reports (DMRs), Waste Characterization Reports (WCR), and Residual Transfer Reports (RTR) as appropriate and submitted to the Department as required by N.J.A.C. 7:14A-6.8(a).

F. General conditions:

In accordance with N.J.A.C. 7:14A-2.3 and 6.1(b), specific rules from the New Jersey Administrative Code have been incorporated either expressly or by reference in Part I and Part II.

G. Operator Classification Number:

The operator classification requirement is no longer included in the permit. To obtain or determine the appropriate licensed operator classification for the treatment works specified, the permittee shall contact the Bureau of Finance and Construction Permits: Engineering Section North at (609) 292-3025.

H. Flow Related Conditions:

All flow related conditions are incorporated into the permit to implement the Treatment Works Approval Program (N.J.A.C. 7:14A-22), the Capacity Assurance Program (N.J.A.C. 7:14A-22.16), the Sewer Ban Program (N.J.A.C. 7:14A-22.17), the applicable Water Quality Management Plan (N.J.A.C. 7:15), and the Sludge Quality Assurance Regulations (N.J.A.C. 7:14C).

The numerical value used for flow as a permit condition is consistent with the Northeast Water Quality Management Plan in accordance with N.J.A.C. 7:14A-15.4(b).

I. Pretreatment Conditions:

The Department has approved Bergen County Utilities Authority's industrial pretreatment program on July 13, 1984. The Permittee is a local agency that owns or operates the Bergen County Utilities Authority's sewage treatment plant as defined under N.J.S.A. 58:10A-3.x and y, and 40 CFR 403.8(a). Therefore, the treatment plant operated by the Permittee is subject to the industrial pretreatment program requirements noted in this NJPDES permit NJ0020028. This program shall enable the permittee to detect and enforce against violations of the categorical pretreatment standards promulgated under Section 307 (b) and (c) of the Federal Clean Water Act and prohibited discharge standards as set forth in 40 CFR Part 403.5.

The Department intends to monitor the conduct and effectiveness of the Permittee's pretreatment program by use of an on-site audit to be scheduled in November of each year. The on-site audit will be a discussion of the Permittee's pretreatment program operational status, industrial compliance status, enforcement activities (if any), industrial monitoring activities, an evaluation of the IPP record keeping system, and a general discussion of the miscellaneous topics related to the pretreatment program.

The program shall comply with N.J.A.C. 7:14A-19, and be implemented in accordance with the approved pretreatment program submitted by the Bergen County Utilities Authority.

All industrial pretreatment program related plant monitoring requirements have been incorporated into the Monitoring Section of the permit and should be reported in the Pretreatment Annual Report.

J. Residuals/Sludge Conditions:

All treatment works with a discharge regulated under N.J.A.C. 7:14A must have permits that implement applicable technical standards for residuals management. All applicable conditions for residuals management are included in NJPDES permit No. NJG0198005; thus, have been removed from this permit renewal.

K. Compliance Schedule:

Since the permittee's effluent data indicates that they may be unable to consistently comply with the final effluent limitation for **Total Recoverable Arsenic** and **Copper**, a schedule of compliance is included in the permit, including interim deadlines for progress or reports of progress towards compliance with the conditions of this permit, in accordance with N.J.A.C. 7:14A-6.4(a). The compliance schedule is established at 59 months from the effective date of the permit (EDP) to allow the permittee sufficient time to achieve compliance with the newly established effluent limitation{s}. This schedule is provided in consideration of the time it would require for the permittee to undertake steps needed to modify or install treatment facilities, operations or other required measures.

Beginning on EDP + 1 year and every subsequent year after, until the final effluent limitation(s) becomes effective, the permittee must submit a progress report to the Department on the steps taken towards compliance with the final effluent limitations. The progress report must include but is not limited to the following information:

- Investigative work as to what type of treatment options or other means of compliance are considered;
- Decision on the chosen method of treatment;
- Progress on design, bidding and construction schedule;
- The permittee's intent to do studies indicated in Part IV of this permit (to obtain site specific hardness, translator and WER values).

1. Compliance Schedule for Total Recoverable Arsenic and Copper:

   a. During the initial phase, from the effective date of the permit (EDP) to EDP + 59 months, the permittee shall only monitor and report for the above referenced parameter(s) or comply with the specified interim effluent limitations.

b. During the final phase, beginning EDP + 59 months, the permittee shall meet the final effluent limitation(s) for the above referenced parameter(s).

L. Polychlorinated Biphenyl (PCB) Sampling and Pollutant Minimization Plan (PMP):

The United States Environmental Protection Agency and the International Agency for Research on Cancer have concluded that PCBs are carcinogenic to humans. The primary non-occupational source of human PCB exposure is food, especially fish and shellfish from contaminated waters. PCBs persist in the environment, accumulate in the tissue of fish and other animals, and biomagnify through the food chain. The Department has, therefore, adopted rules at N.J.A.C. 7:14A-11.13 and 14.4 on December 18, 2006 to reduce discharges of PCBs to New Jersey's surface waters from industrial facilities and sewage treatment plants. The regulations at N.J.A.C. 7:14A-11.13 outline the PCB monitoring requirements and the regulations at N.J.A.C. 7:14A-14.4 outline the monitoring frequency requirements.

The *New Jersey 2010 Integrated Water Quality Monitoring and Assessment Report (integrated report)* lists pollutants that are currently not meeting the surface water criteria in stream segments throughout the state. Since this facility discharges to a subwatershed that is listed as impaired for PCBs under a Fish Advisory in the Integrated Report, more specifically, Sublist 5 of the New Jersey List Of Water Quality Limited Waters (also known as the 303(d) List or as the Impaired Waterbodies List), this facility is subject to the rules at N.J.A.C. 7:14A-11.13 and 14.4.

Since this facility is subject to these rules, the permittee is required to monitor its effluent for the 209 PCB congeners, using EPA Method 1668A. Sampling will consist of up to 6 samples during a period of 24 months, not to exceed three dry samples and three wet samples, and will be performed using a 24 hour composite sample method for dry weather events and grab sample for wet weather events. Sanitary wastewater treatment plants and publicly owned treatment works shall perform three dry weather and three wet weather samples on the facility's main outfall by 24 months after the effective date of the permit.

Based on the results of the monitoring, which is to be submitted to the Department when all sampling is completed, the Department will make a determination regarding whether this facility will be required to develop and implement a PCB Pollutant Minimization Plan, or PMP. The purpose of the PMP is to help identify and eliminate discrete sources of PCBs. A facility discharging at or close to background levels is far less likely than a facility discharging at significantly higher levels to be able to identify discrete sources of PCBs. Therefore, the Department will require PMPs for this facility if it is found to be discharging more elevated levels of PCBs in the effluent, but not if the permittee is discharging PCB levels at or close to background.

The Department has developed a PMP Technical Manual to help permittees with the development of the PMP, which can be found on the Department's web site at http://www.state.nj.us/dep/dwq/techman.htm.

If based on the monitoring for PCBs, it is determined that the permittee must develop and implement a PCB PMP, the permittee will be required to submit an Annual PMP Progress Report. These reports will be used to update the Department regarding any revisions to the PMP, measures taken to achieve reductions, and changes to the baseline loading.

These conditions have been incorporated into the permit at Part IV, Section D.

M. Reclaimed Water for Beneficial Reuse (RWBR):

This draft permit contains conditions allowing the Bergen County Utilities Authority to beneficially reuse treated effluent identified as RWBR provided the effluent is in compliance with the criteria specified for the particular use. There are two main types of RWBR uses, Public Access Use and Restricted Access Use. Conditions applicable to both types of RWBR are included herein. However, currently approved types of RWBR are included in Appendix B of this permit. As specified in Part IV, the permittee must obtain approval from the Department for each additional RWBR application prior to implementation. Approval shall be granted via a minor modification to the permit for any newly requested applications and included in Appendix B of this permit.

1. Effluent Limitations and Monitoring Requirements for Distribution of Reclaimed Water for Beneficial Reuse for **Public Access**

When the permittee distributes RWBR to an approved reuse location, the surface water discharge effluent limitations contained in Part III of this permit and requirements for Public Access reuse identified in Part IV of this permit shall be met. In addition, the following system, operational and monitoring conditions shall be applicable.

Reclaimed water shall not exceed 5.0 mg/L of Total Suspended Solids (TSS) at a point before application of disinfection. The sample type shall be grab. The facility shall provide continuous on-line monitoring for turbidity before application of disinfection. These requirements are consistent with the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse" and EPA document entitled, "Municipal Wastewater Reuse, Selected Readings on Water Reuse", EPA # 430/09-91-022, September 1991 and the EPA Manual, "Guidelines for Water Reuse", EPA document # 625R-92/004, September 1992.

Where chlorine is utilized for disinfection, chlorine-produced oxidants (CPO) of at least 1.0 mg/ L shall be maintained for a minimum acceptable contact time of 15 minutes at peak hourly flow. The treatment facility shall provide continuous on-line monitoring for CPO at the reuse compliance monitoring point, which shall be prior to distribution to an approved reuse location. This requirement is consistent with the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse" and EPA document entitled, "Municipal Wastewater Reuse, Selected Readings on Water Reuse" EPA # 430/09-91-022, September 1991 and the EPA Manual, "Guidelines for Water Reuse", EPA document # 625R-92/004, September 1992.

Where ultraviolet light is utilized for disinfection, a design UV dose of 100 mJ/cm^2 under maximum daily flow shall be used. This dose shall also be based on continuous monitoring of UV lamp intensity, UV transmittance and UV flow rate. All aspects of the UV system shall meet the requirements of the December 2000 National Water research Institute's Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse and the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse."

Fecal coliform concentrations shall not exceed 14 fecal coliforms per 100 mL at any given time (as an instantaneous maximum level). Fecal coliform concentrations shall also meet a weekly (7 day) median value of 2.2 fecal coliforms per 100 mL. This is consistent with a report entitled "Regulations Governing Agricultural Use of Municipal Wastewater and Sludge", National Academy Press, Washington, D.C. 1996, Department's "Technical Manual for Reclaimed Water for Beneficial Reuse" and the EPA Manual, "Guidelines for Water Reuse", EPA document # 625R-92/004, September 1992.

RWBR limitations shall not exceed a total nitrogen (NO3 + NH3) concentration of 10.0 mg/L. This is the Ground Water Quality Standard (as per N.J.A.C. 7:9-6) and consistent with the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse." This requirement only applies when RWBR is land applied, however, this requirement does not apply to spray irrigation within a fenced perimeter or otherwise restricted area. The permittee may demonstrate that a concentration greater than 10 mg/l is protective of the environment by submitting and receiving approval of the information stated in the Engineering Report section of the "Technical Manual for Reclaimed Water for Beneficial Reuse."

2. Effluent Limitations and Monitoring Requirements for Distribution of Reclaimed Water for Beneficial Reuse for **Restricted Access – Land Application and Non Edible Crops**

When the permittee distributes RWBR to an approved reuse location, the surface water discharge effluent limitations contained in Part III of this permit and requirements for Non Edible Crops reuse

identified in Part IV of this permit shall be met. In addition, the following system, operational and monitoring conditions shall be applicable.

Where chlorine is utilized for disinfection, chlorine-produced oxidants (CPO) of at least 1.0 mg/ L shall be maintained for a minimum acceptable contact time of 15 minutes at peak hourly flow. The treatment facility shall provide continuous on-line monitoring for CPO at the reuse compliance monitoring point, which shall be prior to distribution to an approved reuse location. This requirement is consistent with the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse" and EPA document entitled, "Municipal Wastewater Reuse, Selected Readings on Water Reuse" EPA # 430/09-91-022, September 1991 and the EPA Manual, "Guidelines for Water Reuse", EPA document # 625R-92/004, September 1992.

Where ultraviolet light is utilized for disinfection, a design UV dose of 100 mJ/cm^2 under maximum daily flow shall be used. This dose shall also be based on continuous monitoring of UV lamp intensity, UV transmittance and UV flow rate. All aspects of the UV system shall meet the requirements of the December 2000 National Water research Institute's Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse and the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse."

Fecal coliform shall comply with the permit limitations as specified in the Effluent Limitations Table in Part III of the permit. This is consistent with a report entitled "Regulations Governing Agricultural Use of Municipal Wastewater and Sludge", National Academy Press, Washington, D.C. 1996, Department's "Technical Manual for Reclaimed Water for Beneficial Reuse" and the EPA Manual, "Guidelines for Water Reuse", EPA document # 625R-92/004, September 1992.

RWBR limitations shall not exceed a total nitrogen (NO3 + NH3) concentration of 10.0 mg/L. This is the Ground Water Quality Standard (as per N.J.A.C. 7:9-6) and consistent with the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse." This requirement only applies when RWBR is land applied, however, this requirement does not apply to spray irrigation within a fenced perimeter or otherwise restricted area. The permittee may demonstrate that a concentration greater than 10 mg/l is protective of the environment by submitting and receiving approval of the information stated in the Engineering Report section of the "Technical Manual for Reclaimed Water for Beneficial Reuse."

3. Effluent Limitations and Monitoring Requirements for Distribution of Reclaimed Water for Beneficial Reuse for **Restricted Access – Construction and Maintenance Operations and Restricted Access – Industrial Systems**

When the permittee distributes RWBR to an approved reuse location, the surface water discharge effluent limitations contained in Part III of this permit and requirements for Construction and Maintenance Operation Systems and/or Industrial Systems reuse identified in Part IV of this permit shall be met.

Other Applicable Conditions for RWBR:

The following conditions are consistent with the requirements of the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse" and the EPA document entitled, "Municipal Wastewater Reuse, Selected Readings on Water Reuse" EPA # 430/09-91-022, September 1991 and the EPA Manual, "Guidelines for Water Reuse", EPA document # 625R-92/004, September 1992.

Only reclaimed water meeting high level treatment and the conditions detailed in the approved Operations Protocol shall be diverted for beneficial reuse. Diversion of acceptable quality reclaimed water to the reuse location shall occur only during periods of operator presence, unless other provisions for increased facility reliability are detailed in the Operations Protocol. The Operations Protocol must be reviewed and updated as

required. Changes to the Operations Protocol must be submitted to the Department and approved by the Department prior to implementation. Reclaimed water produced at the treatment facility that fails to meet the criteria established in the Operations Protocol shall not be diverted for beneficial reuse and must instead, be discharged in compliance with the NJPDES/DSW permitted outfall.

The application of reclaimed water shall not produce surface runoff or ponding of the reclaimed water. Land application sites shall not be frozen or saturated when applying RWBR. All setback distances shall be consistent with the requirements of the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse".

The permittee must post advisory signs designating the nature of the project in the area where beneficial reuse is practiced. Examples of methods for notification are identified in the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse".

No cross-connections to potable water systems shall be allowed. All reuse system valves and outlets must be appropriately tagged or labeled to warn the public and employees that the water is not intended for drinking. All piping, pipelines, valves, and outlets must be color coded, or otherwise marked, to differentiate reclaimed water from domestic or other water, as detailed in the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse".

The permittee is required to submit a Beneficial Reuse Annual Report on February 1 of each year. The annual report shall compile the total flow of reuse water distributed to each approved reuse site for each approved type of reuse for the previous calendar year. Specific requirements for the annual report are identified in the Departments "Technical Manual for Reclaimed Water for Beneficial Reuse". In addition a daily log noting the volume of water supplied, the name of the user, date of pick-up, the location and type of reuse (e.g. sewer jetting, landscape irrigation, etc...). and where it is being distributed shall be maintained on-site.

The permittee is required to submit a copy of all Reuse Supplier and User Agreements for existing reuses with its permit application package. Additional Reuse Supplier and User Agreements shall be submitted for each additional user prior to start-up of that use. A Reuse Supplier and User Agreement is a binding agreement between the permittee that supplies the RWBR and the entity that beneficially reuses this water. This agreement is required to ensure that all parties involved work to ensure that construction, operation, maintenance and monitoring of the RWBR system is in compliance with the Technical Manual, all applicable rules and regulations, this permit and the permittee's NJPDES discharge permit. The requirement for submittal of this document is consistent with N.J.A.C. 7:14A-2.11(a). Please note that a Reuse Supplier and User Agreement is not required if the supplier of the RWBR and the user are the same entity.

The permittee is required to submit and receive approval of an Engineering Report in support of RWBR approval requests for new or expanded RWBR projects as detailed in the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse"

7 Variances to Permit Conditions:

To date, the Department has not received a variance request from the permittee.

Procedures for modifying a water quality based effluent limitation are found in the New Jersey Surface Water Quality Standards, N.J.A.C. 7:9B-1.8 and 1.9. If a water quality based effluent limitation has been proposed in this permit action, the permittee may request a modification of that limitation in accordance with N.J.A.C. 7:14A-11.7(a). This request must be made prior to the close of the public comment period. The information that must be submitted to support the request may be obtained from the Bureau of Water Quality Standards and Assessment at (609) 777-1753.

8 Calculation Equations:

A. Wasteload Allocation: $WLA = C_i \times Df - C_{up}(Df - 1)$

where, WLA = wasteload allocation
C_i = instream surface water criteria (from N.J.A.C. 7:9B)
C_{up} = upstream concentration
Df = dilution factor

B. Long Term Average: LTA = (WLA) × [WLA multiplier (LTA)]

where, LTA = long term average
WLA = wasteload allocation
WLA multiplier (LTA) = wasteload allocation multiplier for long term average, the 99th percentile multiplier, (see Table 5-1 in TSD, page 102)

C. Maximum Daily Limitation: MDL = (LTA) × [LTA multiplier (MDL)]

where, MDL = maximum daily limitation
LTA = long term average
LTA multiplier (MDL) = long term average multiplier for the maximum daily limitation , the 99th percentile multiplier, (see Table 5-2 in TSD, page 103)

D. Average Monthly Limitation: AML = (LTA) × [LTA multiplier (AML)]

where, AML = average monthly limitation
LTA = long term average
LTA multiplier (AML) = long term average multiplier for the average monthly limitation, the 99th percentile multiplier, (see Table 5-2 in TSD, page 103)

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Permit Summary Table

Unless otherwise noted, all effluent limitations are expressed as maximums. Dashes (--) indicate there is no effluent data, no limitations, or no monitoring for this parameter depending on the column in which it appears.

PARAMETER	UNITS	AVERAGING PERIOD	WASTEWATER DATA (1)	EXISTING LIMITS	FINAL LIMITS	MONITORING	
						Freq.	Sample Type
Flow	MGD	Monthly Avg. Daily Max.	79.8 212	MR MR	MR MR	Continuous	Metered/ Measured
5 Day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$) Summer (2)	kg/d	Monthly Avg. Weekly Avg.	4103 6136	7125 11400	7125 11400	1/Day	Calculated
5 Day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$) Winter (2)	kg/d	Monthly Avg. Weekly Avg.	4103 6136	8007 12811	8007 12811	1/Day	Calculated
5 Day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)	mg/L	Monthly Avg. Weekly Avg.	13.29 23.5	25 40	25 40	1/Day	24 Hr. Composite
Influent $CBOD_5$	mg/L	Monthly Avg. Weekly Avg.	222 267	MR MR	MR MR	1/Day	24 Hr. Composite
$CBOD_5$ Minimum Percent Removal	%	Monthly Avg.	87	85	85	1/Day	Calculated
Total Suspended Solids (TSS) Summer (2)	kg/d	Monthly Avg. Weekly Avg.	6850 10968	8550 12825	8550 12825	1/Day	Calculated
Total Suspended Solids (TSS) Winter (2)	kg/d	Monthly Avg. Weekly Avg.	6850 10968	9608 14412	9608 14412	1/Day	Calculated
Total Suspended Solids (TSS)	mg/L	Monthly Avg. Weekly Avg.	22.2 42.1	30 45	30 45	1/Day	24 Hr. Composite
Influent Total Suspended Solids (TSS)	mg/L	Monthly Avg. Weekly Avg.	249 372	MR MR	MR MR	1/Day	24 Hr. Composite
TSS Minimum Percent Removal	%	Monthly Avg.	68	85	85	1/Day	Calculated
Fecal Coliform (geometric mean)	# per 100mL	Monthly Avg. Weekly Avg.	41.95 82.04	200 400	200 400	1/Day	Grab (8)
Dissolved Oxygen (minimum)	mg/L	Weekly Avg.	---	---	≥ 4.0	1/Day	Grab
Oil and Grease	mg/L	Monthly Avg. Instant Max.	1.27 6.2	10 15	10 15	2/Week	Grab
Influent Temperature	°C	Instant. Min. Monthly Avg. Instant. Max.	9 17.9 26	MR MR MR	MR MR MR	6/Day	Grab
Effluent Temperature	°C	Instant. Min. Monthly Avg. Instant. Max.	7 18.3 30.6	MR MR MR	MR MR MR	6/Day	Grab
Influent pH	su	Instant. Min. Instant. Max.	5.6 7.8	MR MR	MR MR	6/Day	Grab
Effluent pH	su	Instant. Min. Instant. Max.	6.03 8.5	6.0 9.0	6.0 9.0	6/Day	Grab
Alkalinity (Total as $CaCO_3$)	mg/L	Monthly Avg. Daily Max.	--- ---	--- ---	MR MR	1/Day	24 Hr. Composite
Ammonia (Total as N)	kg/d	Monthly Avg. Weekly Avg. Daily Max.	--- --- ---	--- --- ---	MR MR MR	1/Day	Calculated
Ammonia (Total as N)	mg/L	Monthly Avg. Weekly Avg. Daily Max.	--- --- ---	--- --- ---	MR MR MR	1/Day	24 Hr. Composite
Chlorine Produced Oxidants	kg/d	Month Avg. Daily Max.	19.15 77.58	4.75 7.75	10.76 (3) 17.34 (3)	6/Day	Calculated
Chlorine Produced Oxidants	mg/L	Month Avg. Daily Max.	0.06 0.12	0.017 0.027	0.04 (3) 0.06 (3)	6/Day	Grab
1,4-Dichlorobenzene	kg/day	Monthly Avg. Daily Max.	--- ---	MR 0.44 (6)	--- ---	WCR Monitoring, See Part III	
1,4-Dichlorobenzene	ug/l	Monthly Avg. Daily Max.	< 0.31 (9) < 0.31 (9)	MR 1.55 (6)	--- ---		
Chloroform	kg/day	Monthly Avg. Daily Max.	0.69 2.64	MR 8.2 (6)	--- ---	1/Month	Calculated
Chloroform	ug/l	Monthly Avg. Daily Max.	2.28 6.67	MR 29 (6)	12600 MR	1/Month	Grab
Methylene Chloride	kg/day	Monthly Avg. Daily Max.	0.38 2.45	MR 4.34 (6)	--- ---	1/Month	Calculated
Methylene Chloride	ug/l	Monthly Avg. Daily Max.	1.27 6.19	MR 15.3 (6)	3906 MR	1/Month	Grab

Tetrachloroethylene	kg/day	Monthly Avg. Daily Max.	--- ---	MR 1.53 (6)	--- ---	WCR Monitoring, See Part III	
Tetrachloroethylene	ug/l	Monthly Avg. Daily Max.	< 0.4 (9) < 0.4 (9)	MR 5.4 (6)	--- ---		
Toluene	kg/day	Monthly Avg. Daily Max.	0.24 0.71	MR 9.42 (6)	--- ---	1/Month	Calculated
Toluene	ug/l	Monthly Avg. Daily Max.	0.83 0.26	MR 33.2 (6)	90000 MR	1/Month	Grab
Trichloroethylene	kg/day	Monthly Avg. Daily Max.	--- ---	MR 0.53 (6)	--- ---	WCR Monitoring, See Part III	
Trichloroethylene	ug/l	Monthly Avg. Daily Max.	< 0.86 (9) < 0.86 (9)	MR 1.85 (6)	--- ---		
Cyanide	kg/day	Monthly Avg. Daily Max.	10.4 21.9	MR 2.1 (8)	--- ---	1/Month	Calculated
Cyanide	ug/l	Monthly Avg. Daily Max.	<40 <40	MR 0.6 (8)	--- ---	1/Month	Grab
Copper, Total Recoverable (4)	kg/day	Monthly Avg. Daily Max.	4.5 56.2	32 (6) MR	5.0 7.7	1/Month	Calculated
Copper, Total Recoverable (4)	ug/l	Monthly Avg. Daily Max.	14.7 191	MR MR	17.5 27.2	1/Month	24 Hr. Composite
Manganese, Total Recoverable	kg/day	Monthly Avg. Daily Max.	29.6 191.5	MR MR	--- ---	1/Month	Calculated
Manganese, Total Recoverable	ug/l	Monthly Avg. Daily Max.	99.8 514	MR MR	600 MR	1/Month	24 Hr. Composite
Mercury, Total Recoverable	kg/day	Monthly Avg. Daily Max.	0.008 0.085	0.25 MR	0.25 ---	1/Month	Calculated
Mercury, Total Recoverable	ug/l	Monthly Avg. Daily Max.	0.02 0.21	MR MR	MR MR	1/Month	24 Hr. Composite
Nickel, Total Recoverable	kg/day	Monthly Avg. Daily Max.	4.19 53.6	1.0 (7) MR	--- ---	1/Month	Calculated
Nickel, Total Recoverable	ug/l	Monthly Avg. Daily Max.	13.3 181	3.6 (7) MR	138 MR	1/Month	24 Hr. Composite
Silver, Total Recoverable	kg/day	Monthly Avg. Daily Max.	--- ---	MR 1.3	--- ---	WCR Monitoring, See Part III	
Silver, Total Recoverable	ug/l	Monthly Avg. Daily Max.	< 0.1 (10) < 0.1 (10)	MR 4.7	--- ---		
Zinc, Total Recoverable	kg/day	Monthly Avg. Daily Max.	11.7 50	MR MR	--- ---	1/Month	Calculated
Zinc, Total Recoverable	ug/l	Monthly Avg. Daily Max.	39.4 170	MR MR	281 MR	1/Month	24 Hr. Composite
Arsenic, Total Recoverable (5)	kg/day	Monthly Avg. Daily Max.	--- ---	--- ---	0.22 0.36	1/Month	Calculated
Arsenic, Total Recoverable (5)	ug/l	Monthly Avg. Daily Max.	0.8 1.09	--- ---	0.77 1.26	1/Month	24 Hr. Composite
Butylbenzl Phthalate	kg/day	Monthly Avg. Daily Max.	--- ---	--- ---	--- ---	1/Month	Calculated
Butylbenzl Phthalate	ug/l	Monthly Avg. Daily Max.	0.96 2.37	--- ---	1140 MR	1/Month	24 Hr. Composite
Cadmium, Total Recoverable	kg/day	Monthly Avg. Daily Max.	--- ---	--- ---	--- ---	1/Month	Calculated
Cadmium, Total Recoverable	ug/l	Monthly Avg. Daily Max.	2.4 4.5	--- ---	54.9 MR	1/Month	24 Hr. Composite
Diethyl Phthalate	kg/day	Monthly Avg. Daily Max.	--- ---	--- ---	--- ---	1/Month	Calculated
Diethyl Phthalate	ug/l	Monthly Avg. Daily Max.	0.98 1.4	--- ---	26400 MR	1/Month	24 Hr. Composite
Lead, Total Recoverable	kg/day	Monthly Avg. Daily Max.	--- ---	--- ---	--- ---	1/Month	Calculated
Lead, Total Recoverable	ug/l	Monthly Avg. Daily Max.	12.8 50	--- ---	156 MR	1/Month	24 Hr. Composite
Chronic Toxicity, IC25	%effluent	Minimum	24.93	16	---	1/Quarter	Composite

Footnotes and Abbreviations:

MR Monitor and report only

(1) Wastewater data originates from the information submitted on the monitoring report forms 1/1/08 to 3/31/13.

(2) Summer limitations are effective from May 1 through October 31. Winter limitations are effective from November 1 through April 30.

(3) The permittee shall comply with the enforceable quantification limit of 0.1 mg/L as a monthly average and daily maximum concentration and 28.4 kg/d as a monthly average and daily maximum loading.

(4) The limitations of 27.2 ug/l as a daily maximum and 17.5ug/l as a monthly average shall become effective on EDP + 59 months. During the interim, monitoring and reporting is required.

(5) The limitations of 1.26 ug/l as a daily maximum and 0.77 ug/l as a monthly average shall become effective on EDP + 59 months. During the interim, monitoring and reporting is required.

(6) These limitations (for 1,4 Dichlorobenzene, Chloroform, Methylene Chloride, Tetrachloroethylene, Total Recoverable Copper and Toluene) were stayed in a letter dated March 17, 2004.

(7) These limitations (for Total Recoverable Nickel) were stayed in a letter dated March 15, 2007.

(8) These limitations (for Cyanide) were stayed in a letter dated April 29, 2008.

(9) This data if from the WCR's during the 5/2012 to 5/2013 monitoring period.

(10) This data if from the WCR's during the 11/2012 to 4/2013 monitoring period.

Table A: Effluent limitation analysis for the Toxic Metals, Organic Compounds, Cyanide, and other pollutants; effluent flow of 75 MGD and stream hardness of 100 mg/L.

Parameter	Data set time period	Number of data points	Coefficient of variation (CV)	Maximum reported data value (µg/L) (1) **A**	Calculated instream WLA (µg/L) **B**	"Cause" Y = yes N = no **A > B ?**	Aquatic criteria LTA (µg/L)	CWEA or **Water Quality Based** Limitations, if applicable (µg/L)
Butyl Benzyl Phthalate	9/08 – 9/12	(dt) = 4 (nd) = 1	0.6 (d)	1.12 (max)	(h) = 1140	(h) = N	N/A	AML = 1140
Chloroform	5/12 -5/13	(dt) = 13 (nd) = 0	0.37 (ca)	0.56 (max)	(h) = 12600	(h) = N	N/A	AML = 12600
Diethyl Phthalate	9/08 – 9/12	(dt) = 4 (nd) = 1	0.6 (d)	1.4 (max)	(h) = 26400	(h) = N	N/A	AML = 26400
Methylene Chloride	5/12 -5/13	(dt) = 12 (nd) = 1	0.41 (ca)	2.88 (max)	(hc) = 3906	(hc) = N	N/A	AML = 3906
Toluene	5/12 -5/13	(dt) = 13 (nd) = 0	0.72 (ca)	2.21 (max)	(h) = 90000	(h) = N	N/A	AML = 90000
Arsenic **	9/08 – 9/12	(dt) = 4 (nd) = 1	0.6 (d)	1.09 (max)	(a) = 324 (c) = 223 (hc) = 0.77	(a) = N (c) = N (hc) = Y	(hc) = 0.77	**MDL = 1.26** **AML = 0.77**
Cadmium **	9/08 – 9/12	(dt) = 4 (nd) = 1	0.6 (d)	1.12 (max)	(a) = 188 (c) = 54.6 (hc) = 96	(a) = N (c) = N (hc) = N	N/A	AML = 54.9
Copper **	4/12 -5/13	(dt) = 54 (nd) = 0	0.49 (ca)	29.05 (max)	(a) = 22.6 (c) = 19.2	(a) = Y (c) = Y	(a) = 10.28	**MDL = 27.2** **AML = 17.5**
Lead **	9/08 – 9/12	(dt) = 4 (nd) = 1	0.6 (d)	12.64 (max)	(a) = 987 (c) = 149	(a) = N (c) = N	N/A	AML = 156
Manganese **	4/12 -5/13	(dt) = 54 (nd) = 0	0.68 (ca)	421 (max)	(h) = 600	(h) = N	N/A	AML = 600
Nickel **	4/12 -5/13	(dt) = 13 (nd) = 41	0.44 (ca)	12.7 (max)	(a) = 301 (c) = 136 (h) = 10200	(a) = N (c) = N (h) = N	N/A	AML = 138
Zinc **	4/12 -5/13	(dt) = 54 (nd) = 0	0.53 (ca)	75 (max)	(a) = 423 (c) = 502 (h) = 156000	(a) = N (c) = N (h) = N	N/A	AML = 281

(1) For human health carcinogen (hc) water quality based calculations, the data set's long-term average equivalent is used instead of the maximum reported data value. For human health carcinogen (hc) existing effluent quality limitations, the maximum reported data value is used.

Footnotes and Abbreviations:

(dt) = Data values detected.
(nd) = Data values non-detected.
(d) = Default CV
(ca) = Calculated from data set.
(max) = Maximum
(LTAeq) = Long Term Average equivalent

(a) = acute aquatic
(c) = chronic aquatic
(h) = human health non-carcinogen
(hc) = human health carcinogen
(*) = Dissolved
(**) = Total Recoverable

LTA = Long Term Average
WLA = Waste Load Allocation
MDL = Maximum Daily Limit
AML = Average Monthly Limit
EEQ = Existing Effluent Quality
N/A = Not Applicable

MR = Monitor and Report

10 Combined Sewer Overflow (CSO) Discharge Description:

This facility receives flows from combined sewer systems (CSS). Such flows are regulated through this permit.

CSSs are sewers that were designed many decades ago to collect rainwater and snowmelt runoff, domestic sewage, and industrial wastewater in the same pipe. CSSs are no longer permitted in New Jersey for new communities, but many older cities in the State continue to operate existing CSSs. Most of the time, the CSSs transport all wastewater to a sewage treatment plant, where it is treated and then discharged to a water body. However, during periods of rainfall or snowmelt, the wastewater volume in a CSS can exceed the hydraulic capacity of the sewer system or treatment plant. For this reason, CSSs were designed to overflow during these periods and discharge excess wastewater directly from Combined Sewer Overflows (CSOs) to nearby streams, rivers, or other water bodies prior to reaching the sewage treatment plant.

CSOs often contain high levels of suspended solids, pathogenic microorganisms, toxic pollutants, floatables, nutrients, oxygen-demanding organic compounds, oil and grease, and other pollutants. CSOs can cause exceedances of water quality standards (WQS) which may pose risks to human health, threaten aquatic life and its habitat, and impair the use and enjoyment of the State's waterways.

Although Bergen County Utilities Authority does not own and/or operate any CSO outfalls, they indirectly control the discharge of Ridgefield Park Village, Hackensack City and Fort Lee Borough's CSOs. Please refer to Ridgefield Park Village, Hackensack City and Fort Lee Borough's individual NJPDES Discharge to Surface Water permits NJ0109118, NJ0108766 and NJ0034517 respectively.

11 Combined Sewer Overflow Control Policy Background:

Regulatory Background

Historically, the control of CSOs has proven to be extremely complex. This complexity stems partly from the difficulty in quantifying CSO impacts on receiving water quality and the site-specific variability in the volume, frequency, and characteristics of CSOs. In addition, the financial considerations for communities with CSOs can be significant. The U.S. Environmental Protection Agency (EPA) estimated the CSO abatement costs for the 1,100 national communities served by CSSs to be approximately $41.2 billion in the May 1995 Combined Sewer Overflows - Guidance for Nine Minimum Controls. In 2008, New Jersey's CSO abatement costs were estimated at $9.3 billion. See National Clean Watersheds Needs Survey, http://water.epa.gov/scitech/datait/databases/cwns/upload/cwns2008rtc.pdf.

To address these challenges, EPA's Office of Water issued a National Combined Sewer Overflow Control Strategy ("CSO Strategy") on August 10, 1989 (54 Federal Register 37370). Five years later, EPA issued the National CSO Control Policy (National Policy) on April 19, 1994, which remains the current national framework for control of CSOs. The National Policy provides guidance to permittees and state authorities on coordinating the planning, selection and implementation of CSO controls. It promotes a phased approach to the control of CSOs through a series of permits that include progressively more stringent requirements. The National Policy prohibits dry weather overflows and contains provisions for developing appropriate, site-specific NPDES permit requirements for all CSOs. In the Wet Weather Quality Act of 2000, Congress amended the CWA to incorporate the National Policy. As amended, the CWA requires that all permits, orders and decrees issued to regulate combined system overflows must comply with the National Policy. 33 U.S.C.A. § 1342(q)(1). DEP incorporated the National Policy verbatim into its regulations at N.J.A.C. 7:14A-11.12 – Appendix C.

Key Elements of the National CSO Control Policy

The National Policy contains four key principles to ensure that existing and proposed CSO controls are cost-effective and meet the requirements of the CWA. These four principles are:

- Provide clear levels of control that would be presumed to meet appropriate health and environmental objectives;
- Provide sufficient flexibility to municipalities, especially those that are financially disadvantaged, to consider the site-specific nature of CSOs and determine the most cost-effective means of reducing pollutants and meeting CWA objectives and requirements;
- Allow a phased approach for implementation of CSO controls which considers a community's financial capability; and
- Review and revise, as appropriate, WQS and their implementation procedures when developing long-term CSO control plans to reflect the site-specific wet weather impacts of CSOs.

The National Policy requires permittees to implement Nine Minimum Controls (NMCs), and to develop and implement a Long Term Control Plan (LTCP). The NMCs are as listed below.

1. Proper operation and regular maintenance programs for the sewer system and the CSOs,
2. Maximum use of the collection system for storage,
3. Review and modification of pretreatment requirements to assure CSO impacts are minimized,
4. Maximization of flow to the publicly owned treatment works for treatment,
5. Prohibition of CSOs during dry weather,
6. Control of solid and floatable materials in CSOs,
7. Pollution prevention,
8. Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts, and
9. Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.

There are nine minimum elements of the LTCP. They are:

1. Characterization, monitoring, and modeling activities to serve as the basis for selection and design of effective CSO controls;
2. A public participation process that actively involves the affected public in the decision-making to select long-term CSO controls;
3. Consideration of sensitive areas as the highest priority for controlling overflows;
4. Evaluation of alternatives that will enable the permittee, in consultation with the NPDES permitting authority, WQS authority, and the public, to select CSO controls that will meet CWA requirements;
5. Cost/performance considerations to demonstrate the relationships among a comprehensive set of reasonable control alternatives;
6. Operational plan revisions to include agreed-upon long-term CSO controls;
7. Maximization of treatment at the existing POTW treatment plant for wet weather flows;
8. An implementation schedule for CSO controls; and
9. A post-construction compliance monitoring program adequate to verify compliance with water quality-based CWA requirements and ascertain the effectiveness of CSO controls.

In New Jersey, the CSO Strategy, and later, National Policy have been implemented, in part, through NJPDES Master General Permit (MGP) (NJ0105023) for Combined Sewer Systems. Most of the CSSs in the State were regulated under General Permit Authorizations issued under the MGP; however some CSSs continued to be regulated under individual NJPDES permits. In addition, some CSO controls were required under other enforceable documents, such as Administrative Consent Orders or Judicial Consent Orders.

The first MGP was issued on January 27, 1995, and became effective on March 1, 1995. Under the 1995 MGP, permittees which own and/or operated any portion of a CSS were required to develop and implement technology based control measures including the NMCs. Of significance to note, the Department required the installation of solid and floatable controls, i.e, netting or bar screens, that would not allow the passage of solids greater than one half inch. To date, 89% of such facilities across the State have installed these controls. In addition, the permittees were required to initiate the first element of the LTCP, by requiring the development of Combined Sewer System Characterization Studies (System Characterization Study) to demonstrate the relationship between rainfall, runoff and sewer system

responses. As part of the studies, permittees were required to develop a field calibrated and verified CSO model designed to represent the CSS's response to historical events of precipitation. The study was divided into six components: 1. Monitoring Program Proposal and Work Plan; 2. Service Area and Land Use Report; 3. Sewer System Inventory and Assessment Report; 4. Rainfall Monitoring Study; 5. Combined Sewer Overflow Monitoring Study; and 6. Combined Sewer System Modeling Study.

On February 24, 2000, the Department renewed the MGP.

On June 30, 2004, the Department revoked and reissued the MGP. Existing requirements remained in place, and the Department added several new provisions to require permittees to address four additional elements of the CSO LTCP. Specifically, the permit required permittees to develop, with Department oversight, a Public Participation Plan, evaluate a specific set of alternatives, develop appropriate cost and performance curves, and maximize conveyance for treatment at the existing POTW treatment plant for wet weather flows. Permittees with CSO points were required to develop and evaluate a variety of disinfection control alternatives. The permit became effective on August 1, 2004, and expired on July 31, 2009. DEP issued a draft new general permit before the August 1, 2009 expiration date, but it did not finalize it.

The 2004 MGP reflected the Department's intention to allow the CSO permittees to integrate the results of ongoing TMDL studies into their LTCPs. The TMDL water quality studies were intended to help develop water quality goals for the receiving waters, identify CSO and non-CSO sources of pollution, and identify load reduction objectives and allocations through establishment of TMDLs for pathogens, nutrients and other pollutants determined to be responsible for the impairments. As indicated in the Fact Sheet that accompanied the 2004 MGP, the Department did not intend to require the permittees to develop and implement all elements of the LTCP until the TMDLs for pathogens were established. At the time the permit was issued, the Department intended to develop with DRBC pathogen TMDLs for the waters impacted by Delaware River permittees.

The Department expected that TMDL studies would have been completed during the lifetime of the 2004 MGP. However, the development of the Delaware River TMDL was not pursued. Further, on March 15, 2012, EPA provided DEP with a draft of the water quality study and associated documentation that was intended to provide the basis for the pathogens TMDL in the NY/NJ Harbor. After reviewing the draft water quality study, the Department determined that it was technically deficient, and that the Department could not move forward with the TMDL for pathogens at that time. Rather than continue to wait for an acceptable water quality study and for TMDLs to be adopted, the Department has determined that it is necessary to move forward on individual permits requiring permittees to develop and implement all elements of the LTCP at this time. Thus, the Department has determined that it is no longer appropriate to control CSOs through an MGP and is issuing individual permits in a phased approach in order to address the site-specific conditions of each of the permittees and to promote better coordination of a LTCP among all permittees contributing to the hydraulically connected system.

Since the inception of the Department's CSO program, 64 CSO points in New Jersey have been eliminated. Permittees have put into place Solids/Floatable Control Measure for at least 183 CSO points. The control measures for the remaining CSO points are in various stages of construction. These Solids and Floatables control facilities currently capture, remove, or otherwise prevent the discharge of an estimated 700 tons of solids and floatables material per year. The New Jersey Environmental Infrastructure Financing Program, through a partnership with DEP and the New Jersey Environmental Infrastructure Trust has helped finance much of this work by funding over $1.4 billion for CSO abatement projects.

Specifically, BCUA has perfomed the following studies:

- Public Participation Report, Bergen County CSO Group, prepared by Hatch Mott MacDonald, dated April 2007.
- CSO Long Term Control Plan, Cost & Performance Analysis, Volume 1, prepared by Hatch Mott MacDonald, dated March 2007.
- CSO Long Term Control Plan, Cost & Performance Analysis, Volume 2, Technical Guidance Manual, prepared by Hatch Mott MacDonald, dated December 2006.

A complete list of studies performed by all CSO permittees in BCUA's hydraulically connected system is summarized in Appendix C at the end of this permit.

Multiple municipalities/permittees own separate portions of a hydraulically connected combined sewer system, and any changes to the system, or CSO controls that are implemented by one of these municipalities/permittees will likely affect the CSO discharges in other portions of the hydraulically connected combined sewer system. Additionally, these municipalities/permittees are then connected to a STP which is owned by a separate entity. Therefore, the Department requires that the permittee work cooperatively with the receiving STP and all other appropriate municipalities/permittees in the hydraulically connected combined sewer system to ensure that the data collected is used consistently in the development of the LTCP and can be documented to achieve overall water quality benefits.

Further, the Department strongly encourages the permittees to combine their resources to develop and submit a single LTCP on behalf of the permittees in the hydraulically connected combined sewer system.

The Department recognizes that the development of such a single comprehensive LTCP among multiple entities will require extensive coordination and cooperation and, as such, will consider requests to extend the compliance schedule for the submittal of the single, comprehensive LTCP.

This permit contains conditions necessary to implement the National Policy pursuant to the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., Sewage Infrastructure Improvement Act, N.J.S.A. 58:25-23 et seq., and the Clean Water Act, 33 U.S.C. 1251 et seq., and the regulations promulgated pursuant thereto, N.J.A.C. 7:14A, specifically, N.J.A.C. 7:14A-11.12, Appendix C.

12 Summary of Permit Conditions:

A. Nine Minimum Controls:

This permit requires that the permittee continue to comply with all of the Nine Minimum Controls (NMCs), as listed below.

1. Proper operation and regular maintenance programs for the sewer system and the CSOs,
2. Maximum use of the collection system for storage,
3. Review and modification of pretreatment requirements to assure CSO impacts are minimized,
4. Maximization of flow to the publicly owned treatment works for treatment,
5. Prohibition of CSOs during dry weather,
6. Control of solid and floatable materials in CSOs,
7. Pollution prevention,
8. Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts, and
9. Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.

The NMCs are identified in the National Policy as minimum technology-based controls that can be implemented to address CSOs without extensive engineering studies or significant construction costs, prior to the implementation of long-term control measures. As described in the National Policy, permittees were to implement the NMCs as the first steps in controlling discharges from CSOs. EPA has prepared a document to guide permittees on how to implement the NMCs and document implementation. The document, Guidance for Nine Minimum Controls, can be found at http://www.epa.gov/npdes/pubs/owm0030.pdf.

Permittees are encouraged to be creative and explore innovative and cost-effective measures in implementing the NMCs to address their specific CSOs. The NMCs are not necessarily distinct and separate from one another. Many control measures can address and facilitate more than one of the controls at the same time (e.g., street sweeping can address both the "Control of Solids/Floatables" and the "Pollution Prevention" controls). With the assistance of the guidance document referenced above, permittees should continue to plan and pursue control measures that can achieve the ultimate goal of reducing overall CSO impacts in a holistic

manner. Based upon the evaluation of the implementation of the NMCs, the Department has included enhancements in order to clarify requirements consistent with the National Policy. A brief description of the NMCs under this permit follows.

1. Proper Operation and Regular Maintenance Program Requirements

Under the existing individual NJPDES Discharge to Surface Water permit (a Combined Sewer Overflow Pollution Prevention Plan (CSOPPP) and a Proper Operation & Maintenance Plan and Manual is required), and consistent with state and federal regulations, (N.J.A.C. 7:14A-6.12 and 40 CFR 122.41(e)), all permittees with CSSs were required to develop and maintain a current Operations and Maintenance (O&M) Plan and Manual for their contributory collection system to the CSO outfalls. The Plan and Manual were to demonstrate that the permittee has made or will make all the necessary financial, administrative and institutional arrangements to meet the requirements of the permit. The Department has determined that it is necessary to provide more detail in the permit, consistent with EPA Guidance, on the necessary components of an O & M Program and Manual. Under this proposed permit action, the permittee is required to continue to implement update annually as necessary, an Operations & Maintenance (O&M) Program (and corresponding Manual), Emergency Plan, detailed Standard Operating Procedures (SOPs) and an Asset Management Plan to ensure that the treatment works, which are owned and/or operated by the permittee, are operated and maintained in a manner that achieves compliance with all terms and conditions of this permit. For example, SOPs are required to be developed to ensure that the permittee:

a. Provides a system for documenting, assessing, tracking and addressing residential complaints regarding blockages and other situations that lead to flooding of basements, streets and other public and private areas,
b. Provides for ongoing infiltration and inflow (I/I) reduction strategies through the identification of sources and implementation of I/I reduction projects,
c. Includes Asset Management planning, addressing such measures as infrastructure inventory with infrastructure repair/replacement needs listed and scheduled according to priority/criticality, and
d. Includes under the Emergency Plan: a plan for addressing a wide range of emergencies, including procurement for energy (fuel oil, electricity) and replacement parts.

The permittee shall review its rules, ordinances and sewer use agreements with its customer and/or upstream municipalities and revise if necessary to require them to identify I/I and reduce where appropriate, and to identify and eliminate interconnections and cross-connections in storm sewers.

2. Maximum Use of the Collection System for Storage

Under the existing individual NJPDES Discharge to Surface Water permit, specifically Appendix C, the permittee was required to conduct a feasibility study to evaluate in-line and off-line storage technologies for incorporation into possible future control strategies to store flow for subsequent treatment at the STP after downstream conveyance and treatment capacities were restored. Under this proposed permit action, the permittee will be required to operate and maintain the entire collection system owned/operated by the permittee that conveys flows to the treatment works.

3. Review and Modification of Pretreatment Requirements to Assure CSO Impacts are Minimized

Under the existing individual NJPDES Discharge to Surface Water permits issued to the STPs that receive combined sewage, the STPs were required to explore various options to minimize discharges of non-domestic users during wet weather periods. Under this proposed permit action, the CSO permittee is required to determine the locations of Significant Indirect/Industrial Users (SIUs) as it relates to the locations of its CSO outfalls, and the discharge nature of the SIUs for the entire collection system which is owned and/or operated by the permittee. Furthermore, the permittee is to determine and prioritize the environmental impact of these SIUs by CSO outfall and include this information in the characterization portion of its Operation & Maintenance Program. For delegated STPs, the permittee shall require that

SIUs investigate ways to minimize their discharges during wet weather, and where necessary, establish agreements with SIUs or enact ordinances or rules specifying that the SIUs should restrict discharges to the greatest extent practicable during wet weather periods.

4. Maximization of Flow to the POTW for Treatment

Under the existing individual NJPDES Discharge to Surface Water permits issued to the STPs that receive combined sewage, the permittee was required to operate and maintain the facilities to maximize the conveyance of wastewater to the STP for treatment and to minimize the frequency and duration of CSOs to the receiving waters. Under this proposed permit action, this requirement is continued and the permittee is also required to evaluate and implement low-cost alternatives for increasing the flow to the STP, based upon capacity evaluations of the permittee's collection system.

5. Prohibition of CSOs during Dry Weather

Since the permittee does not own and/or operate any CSO outfalls, this proposed permit action does not provide the permittee with requirements for the prohibition of CSOs during dry weather at this time.

6. Control of Solids and Floatable Material in CSOs

Since the permittee does not own and/or operate any CSO outfalls, this proposed permit action does not provide the permittee with requirements for the prohibition of CSOs during dry weather at this time.

7. Pollution Prevention

Under the existing individual NJPDES Discharge to Surface Water permit, the permittee was required to develop, implement, and maintain a Combined Sewer Overflow Pollution Prevention Plan (CSOPPP). The CSOPPP required documentation of the procedures used to develop, evaluate and implement interim and long term solids/floatables control measures among other things. Under this proposed permit action, the permittee will be required to prevent and limit contaminants from entering the entire collection system owned and/or operated by the permittee.

8. Public Notification to Ensure that the Public Receives Adequate Notification of CSO Occurrences and CSO Impacts

Since the permittee does not own and/or operate any CSO outfalls, this proposed permit action does not include the requirement to ensure that the public receives notification of CSO occurances and impacts at this time.

9. Monitoring to Effectively Characterize CSO Impacts and the Efficacy of CSO Controls

Since the permittee does not own and/or operate any CSO outfalls, this proposed permit action does not require the permittee to monitor to characterize CSO impacts and controls at this time.

B. <u>Long Term Control Plan (LTCP)</u>:

This permit contains requirements for the permittee to develop and submit a final LTCP on or before the Effective Date of the Permit + 3 years. The permittee may utilize information collected under previous permits to the extent that they are accurate and representative of a properly operated and maintained sewer system and meet the current requirements, such as:

- Public Participation Report, Bergen County CSO Group, prepared by Hatch Mott MacDonald, dated April 2007.

- CSO Long Term Control Plan, Cost & Performance Analysis, Volume 1, prepared by Hatch Mott MacDonald, dated March 2007.
- CSO Long Term Control Plan, Cost & Performance Analysis, Volume 2, Technical Guidance Manual, prepared by Hatch Mott MacDonald, dated December 2006.

A complete list of studies performed by all CSO permittees in BCUA's hydraulically connected system is summarized in Appendix C at the end of this permit.

As stated above, since multiple municipalities/permittees own portions of hydraulically connected combined sewer systems, the Department requires that the permittee work cooperatively with all other appropriate municipalities/permittees in the hydraulically connected combined sewer system to ensure that the data is used consistently in the development of the LTCP and can be documented to achieve overall water quality benefits. The Department encourages a single LTCP be developed and submitted on behalf of all of the permittees in a hydraulically connected combined sewer system. For example, the Department supports the permittee combining their resources with Ridgefield Park Village and Fort Lee in the development of a single LTCP to address this permit requirement.

The National Policy lists nine elements that must be addressed in the LTCP. The National Policy also encourages permittees to develop, and permit writers to evaluate LTCPs on a watershed management basis. Permittees should evaluate all sources of pollution (e.g., point sources, CSOs, storm water) during system characterization and, wherever possible, develop control strategies on a watershed basis in coordination with the NPDES permitting authority.

This permit allows for the submittal of the LTCP in three steps. EPA has prepared a document to provide guidance to permittees on the development of the Long Term Control Plans and how to document the implementation. This document can be found at http://www.epa.gov/npdes/pubs/owm0272.pdf

As listed in the National Policy, the nine elements of the LTCP are:

1. Characterization, monitoring, and modeling activities as the basis for selection and design of effective CSO controls;
2. A public participation process that actively involves the affected public in the decision-making to select long-term CSO controls;
3. Consideration of sensitive areas as the highest priority for controlling overflows;
4. Evaluation of alternatives that will enable the permittee, in consultation with the NPDES permitting authority, WQS authority, and the public, to select CSO controls that will meet CWA requirements;
5. Cost/performance considerations to demonstrate the relationships among a comprehensive set of reasonable control alternatives;
6. Operational plan revisions to include agreed-upon long-term CSO controls;
7. Maximization of treatment at the existing POTW treatment plant for wet weather flows;
8. An implementation schedule for CSO controls; and
9. A post-construction compliance monitoring program adequate to verify compliance with water quality-based CWA requirements and ascertain the effectiveness of CSO controls.

The Department has grouped the LTCP submittal requirements into 3 steps, in accordance with EPA's LTCP planning approach outlined in the Guidance for Long Term Control Plans. The LTCP shall consist of the following steps and be submitted according to the schedule in the permit.

Step 1 entails the development and submittal of the Sewer System Characterization Workplan and final report as well as the creation of the Public Participation Process and identification, evaluation and prioritization of the Sensitive Areas. This step also entails understanding the water quality standards as they apply to the receiving water for each CSO and how achievement of those standards will affect the choice of the CSO control measures. The workplan is being required to ensure that all permittee of the hydraulically connected system conduct and update the characterization using a coordinated approach that will result in a

comprehensive and integrated sewer system characterization. While the permittee has conducted characterization work under the MGP, it will be necessary to update the information from previous studies to incorporate modifications in the collection system and requirements under this permit. This Workplan is required to be submitted 3 months after the effective date of the permit and the final Sewer System Characterization Report, along with the Public Participation Process and the Consideration of Sensitive Areas information is then due 1 year after the effective date of the permit.

Based upon the information gathered under Step 1, Step 2 will entail the development and evaluation of the CSO control alternatives described below, that at a minimum will enable the permittee, in consultation with the Department's NJPDES program, the water quality standards program, and the public to select CSO control measures that will meet the Clean Water Act requirements. The Development and Evaluation of Alternatives Report required for Step 2 is to be submitted 2 years after the effective date of the permit.

Step 3 entails the final selection and implementation schedule of the agreed upon LTCP CSO control measures as well as the Compliance Monitoring Program (CMP). The CMP will require monitoring of the discharges and the receiving waters prior to, and at various intervals during, the implementation of the LTCP to evaluate the effectiveness of the ongoing CSO control measures. This step will also entail concurrent revisions to the O&M Program and Manual as control measures are implemented. The permittee is required to submit an approvable Selection and Implementation of Alternatives Report 3 years after the effective date of the permit.

A brief description of the LTCP requirements in the permit follows.

1. **Characterization Monitoring and Modeling of the Combined Sewer System**

   Under this proposed permit action, the permittee will be required to submit an updated characterization study of the combined sewer system to: establish the existing baseline conditions, evaluate the efficiency of the technology based controls, determine the baseline condition upon which the LTCP will be based and uniformly characterize the hydraulically connected system with respect to the requirements of this permit, specifically the number of events as defined in this permit.

2. **Public Participation Process**

   Under the existing individual NJPDES Discharge to Surface Water permit, the permittee or Ridgefield Park Village and Fort Lee were required to create a Public Participation Program that would ensure the opportunity for participation by the public in the LTCP development process. Under this proposed permit action, the permittee will be required to submit an updated Public Participation Plan and to involve the public in the decision making process in determining the alternatives chosen under the LTCP.

3. **Consideration of Sensitive Areas**

   Under this proposed permit action, the permittee will be required to give the highest priority to controlling overflows in sensitive areas. The LTCP shall prohibit increased CSO overflows and eliminate/relocate CSO overflows in sensitive areas. If elimination/relocation is not possible, the permittee shall provide treatment necessary to meet the WQS.

4. **Evaluation of Alternatives**

   Under the existing individual NJPDES Discharge to Surface Water permit, the permittee or Ridgefield Park Village and Fort Lee were required to evaluate specific alternative interim and long term control measures for the control of pathogens and to formulate cost and performance relationships for treatment of CSO discharges. Under this proposed permit action, the permittee will be required to evaluate a broader range of control alternatives that meet the CWA requirements and provide attainment of the WQS using either the Presumption Approach or the Demonstration Approach. The control alternatives shall include:

green infrastructure, increased storage in the collection system, STP expansion/storage, I/I reduction, sewer separation, discharge treatment and bypass of secondary treatment at the STP.

When evaluating the alternatives for the LTCPs, the permittee may use one of two approaches:

1) 'The Presumption Approach' in which the permittee chooses to implement a minimum level of treatment (e.g., 4 or less overflow events per year, or at least 85 percent removal of volume/mass of the collected combined sewage flows) that is presumed to meet the water quality-based requirements of the CWA, unless data indicate otherwise. The "Presumption" Approach, in accordance with N.J.A.C 7:14A-11 Appendix C provides the below:

   A program that meets any of the criteria listed below will be presumed to provide an adequate level of control to meet the water quality-based requirements of the CWA, provided the Department determines that such presumption is reasonable in light of the data and analysis conducted in the characterization, monitoring, and modeling of the system and the consideration of sensitive areas described above.

   i. No more than an average of four overflow events (see below) per year from a hydraulically connected system as the result of a precipitation event that does not receive the minimum treatment specified below. These four overflow events shall be calculated over a 60 month rolling average, provided that the Department may allow up to two additional overflow events per year. For the purpose of this criterion, an 'event' is:

      - In a hydraulically connected system that contains only one CSO outfall, multiple periods of overflow are considered one overflow event if the time between periods of overflow is no more than 24 hours.

      - In a hydraulically connected system that contains more than one CSO outfall, multiple periods of overflow from one or more outfalls are considered one overflow event if the time between periods of overflow is no more than 24 hours without a discharge from any outfall.

   ii. The elimination or the capture for treatment of no less than 85% by volume of the combined sewage collected in the CSS during precipitation events on a system-wide annual average basis.

   iii. The elimination or removal of no less than the mass of the pollutants, identified as causing water quality impairment through the sewer system characterization, monitoring, and modeling effort, for the volumes that would be eliminated or captured for treatment under Section G.4.f.ii.

   Combined sewer overflow remaining after implementation of the NMCs and within the criteria specified in this section in sections ii. and iii. Above shall receive minimum treatment in accordance with the items below.

   - Primary clarification (Removal of floatables and settleable solids may be achieved by any combination of treatment technologies or methods that are shown to be equivalent to primary clarification.).

   - Solids and floatables disposal.

   - Disinfection of effluent, if necessary, to meet WQS, protect designated uses and protect human health, including removal of harmful disinfection chemical residuals, where necessary.

OR

2) The 'Demonstration Approach' in which the permittee demonstrates that its plan is adequate to meet the water quality-based requirements of the CWA. The "Demonstration" Approach, in accordance with N.J.A.C. 7:14A-11 Appendix C provides the below.

A permittee may demonstrate that a selected control program, though not meeting the criteria specified under the Presumption Approach, is adequate to meet the water quality-based requirements of the CWA. The permittee must demonstrate each of the following below.

i. The planned control program is adequate to meet WQS and protect designated uses, unless WQS or uses cannot be met as a result of natural background conditions or pollution sources other than CSOs.

ii. The CSO discharges remaining after implementation of the planned control program will not preclude the attainment of WQS or the receiving waters' designated uses or contribute to their impairment.

iii. The planned control program will provide the maximum pollution reduction benefits reasonably attainable.

iv. The planned control program is designed to allow cost effective expansion or cost effective retrofitting if additional controls are subsequently determined to be necessary to meet WQS or designated uses.

The permittee will be required to evaluate a range of CSO control alternatives, based on their practical and technical feasibility, and the water quality benefits of constructing and implementing various remedial controls and combinations of such controls. The permittee should be prepared to address any future changes in the WQS. For example, on November, 26, 2012, EPA recommended new recreational water quality criteria for pathogens. NJDEP will be evaluating these new criteria and considering a proposal to incorporate them within the next 3 years.

The permit requires the permittee to consider at least the following:

- Green infrastructure which allows for stormwater management close to its source, providing both water quality treatment and some volume control. The volume that is retained onsite and kept out of the sewer system can help delay expensive gray infrastructure maintenance and upgrades. Some examples of green infrastructure measures include, but are not limited to, pervious pavements, street bump-outs, rain gardens, and tree trenches.

- Increased storage capacity in the collection system to store the wastewater until the sewage flows subside sufficiently for the downstream sewers to be able to transport the flow to the STP for treatment;

- STP expansion and/or storage at the plant. Based on information provided by the STP, an evaluation of the capacity of the unit processes must be conducted at the STP and a determination made of whether there is any additional treatment capacity available at the STP. The permittee shall use this information and determine (modeling may be used) the amount of CSO discharge reduction that would be achieved by utilizing the additional treatment capacity while maintaining compliance with all permit limits;

- I/I reduction in the entire collection system that conveys flows to the treatment works. I/I reduction can free up storage capacity or conveyance in the sewer system and/or treatment capacity at the STP. The permittee shall determine the amount of CSO discharge reduction that could be achieved and the feasibility of implementing in the entire system or portions thereof;

- Sewer separation through construction of new sewer lines to separate and remove the stormwater from the sanitary sewer system;

- CSO discharge treatment at individual CSO outfalls; and

- Providing CSO related bypasses of the secondary treatment portion of the STP in accordance with the National Policy.

The National Policy encourages permittees to consider the use of a bypass of secondary treatment in the evaluation of alternatives. The intentional diversion of waste streams from any portion of a treatment facility, including secondary treatment, is considered a bypass. EPA bypass regulations at 40 CFR 122.41(m) allow for a facility to bypass some or all the flow from its treatment process under specified limited circumstances. Under the regulation, the permittee must show that the bypass was unavoidable to prevent loss of life, personal injury or severe property damage, there was no feasible alternative to the bypass and the permittee submitted the required notices. In addition, the regulation provides that a bypass may be approved only after consideration of adverse effects.

Under the National Policy, a CSO-related bypass of the secondary treatment portion of the POTW treatment plant for combined sewer flows may be an appropriate alternative for CSO controls that can be considered in certain limited circumstances. For example, EPA suggests that a bypass can be justified if:

- the permittee can demonstrate that the secondary treatment system is properly operated and maintained;
- the system has been designed to meet secondary limits for flows greater than the peak dry weather flow, plus an appropriate quantity of wet weather flow;
- it is either technically or financially infeasible to provide secondary treatment at the existing facilities for greater amounts of wet weather flow; and
- the permittee can ensure that the discharge will not cause exceedances of WQS.

Further, in order for the Department to consider a by-pass as a feasible alternative under the LTCP the permittee must address compliance with the requirements of all other applicable regulations, such as N.J.A.C. 7:14A, N.J.A.C. 7:9B, and N.J.A.C. 7:15. N.J.A.C. 7:14A-23.13(m) prohibits plant designs that propose the use of bypass lines which would circumvent treatment units and allow untreated or partially treated wastewater to be discharged. The Department recognizes that the rule would need to be modified in order to allow bypasses as part of an approved LTCP.

The permittee may refer to Combined Sewer Overflows - Guidance for Long-Term Control Plan (EPA 832-B-95-002) for further information on these alternatives.

5. Cost Performance Considerations

Under the existing individual NJPDES Discharge to Surface Water permit, the permittee or Ridgefield Park Village and Fort Lee were required to develop cost and performance analysis report for specific control alternatives for each CSO. Under this proposed permit action, the permittee will be required to update and submit cost/performance considerations to determine where the increment of pollution reduction diminishes compare to the increased cost, often known as "knee of the curve". If the permittee chooses the Presumption Approach of no more than an average of 4 discharge events per year, the permittee is not required to conduct analysis for the other events (i.e. 0, 7, 10, 20). The permittee can use previous studies in developing cost/performance considerations to the extent that the studies meet the requirements of this permit.

6. Operational Plan

Under this proposed permit action, the permittee will be required to modify the O&M Program and Manual to address the final LTCP CSO control facilities and operating strategies.

7. Maximizing Treatment at the Existing STP

Under this proposed permit action, the permittee will be required to investigate the control alternative of maximizing flow through the STP, including the alternative of bypassing of secondary treatment at the STP.

8. Implementation Schedule

Under this proposed permit action, the permittee will be required to submit a construction and financing schedule for implementation of the LTCP CSO controls. The schedule may be phased and shall consider: addressing areas of overflows, discharges to sensitive areas as highest priority, use impairment of receiving waters, permittee's financial capability, grant/loan availability, user fees and rate structures, funding mechanisms and resources necessary to implement an asset management plan.

As noted in the National Policy, permittees are required to develop and submit their LTCPs "as soon as practicable, but generally within two years after the date of the NPDES permit provision, Section 308 information request, or enforcement action requiring the permittee to develop the plan." However, "NPDES authorities may establish a longer timetable for completion of the long-term CSO control plan on a case-by-case basis to account for site-specific factors which may influence the complexity of the planning process." NJ has determined that due to the fragmented nature of the CSS ownership in this hydraulically connected sewer system, and the extreme complexities of integrated sewer systems involving multiple municipalities and dozens of interdependent outfalls, that a compliance schedule of 36 months is appropriate. However, as noted above, if the permittees work cooperatively to develop one LTCP, the Department will consider extending the compliance schedule for submittal of the final LTCP.

9. Compliance Monitoring Program (CMP)

Under this proposed permit action, the permittee will be required to implement a CMP to verify: baseline and existing conditions, effectiveness of controls, compliance with the WQS and protection of designated uses. The permittee can use previously submitted studies in developing the CMP that shall detail the monitoring protocols. If using the Demonstration Approach, the monitoring must be ongoing ever year, however, if using the Presumption Approach the monitoring may be reduced during implementation of the CSO controls.

C. Reporting Requirements:

Since the permittee does not own/operate any CSO outfalls, there are no monitoring report requirements at this time.

D. General Conditions:

In accordance with N.J.A.C. 7:14A-2.3 and 6.1(b), specific rules from the New Jersey Administrative Code have been incorporated either expressly or by reference in Part I and Part II.

E. Operator Classification Number:

The specific licensed operator classification requirement for the collection system is not included in the permit, however, as part of the O&M requirements in Part IV.F., the permittee is required to have an appropriately licensed operator as per N.J.A.C. 7:10-13. To obtain or determine the appropriate licensed operator

classification for the treatment works specified, the permittee shall contact the Bureau of Finance and Construction at (609) 633-1180.

F. Compliance Schedule:

This permit includes a compliance schedule for the submittal of the LTCP which is established at three (3) years from the effective date of the permit (EDP) to allow the permittee sufficient time to coordinate the development of the LTCP with all of the municipalities in the hydraulically connected sewer system. This permit also requires other submittal deadlines to document the permittee's progress toward compliance with the NMC and LTCP of the National Policy and N.J.A.C. 7:14A-11 – Appendix C, in accordance with N.J.A.C. 7:14A-6.4.

13 Description of Procedures for Reaching a Final Decision on the Draft Action:

Please refer to the procedures described in the public notice that is part of the draft permit. The public notice for this permit action is published in *The Star Ledger* and in the DEP Bulletin.

14 Contact Information

If you have any questions regarding the sanitary wastewater discharge requirements included in this permit action, please contact Ben Manhas, Bureau of Surface Water Permitting at (609) 292-4860. For any questions regarding the CSO requirements included in this permit action, please contact Bela Mankad, Bureau of Surface Water Permitting at (609) 292-4860.

15 Contents of the Administrative Record

Rules and Regulations:

1. 33 U.S.C. 1251 et seq., Federal Water Pollution Control Act. [C]
2. 40 CFR Part 131, Federal Water Quality Standards. [A] [C]
3. 40 CFR Part 122, National Pollutant Discharge Elimination System. [C]
4. National CSO Control Policy (Published April 19, 1994, at 59 Federal Register 18688)
5. N.J.S.A. 58:10A-1 et seq., New Jersey Water Pollution Control Act. [A] [B]
6. N.J.A.C. 7:14A-1 et seq., New Jersey Pollutant Discharge Elimination System Regulations. [A] [B]
7. N.J.A.C. 7:9B-1 et seq., New Jersey Surface Water Quality Standards. [A] [B]
8. N.J.A.C. 7:15, Statewide Water Quality Management Planning Rules. [A] [B]
9. N.J.A.C. 7:14C, Sludge Quality Assurance Regulations. [B]
10. Interstate Environmental Commission Regulations, N.J.S.A. 32:18-1 et seq.
11. N.J.S.A. 58:25-23 et/ seq., Sewage Infrastructure Improvement Act.
12. New Jersey's 2010 Integrated Water Quality Monitoring and Assessment Report (includes 305 (b) Report 303(d) List). [A] [B]
13. Pretreatment Requirements (N.J.A.C. 7:14A-19).

Guidance Documents / Reports:

1. "Field Sampling Procedures Manual", published by the NJDEP. [A]
2. "NJPDES Monitoring Report Form Reference Manual", updated December 2007, and available on the web at http://www.state.nj.us/dep/dwq/pdf/MRF_Manual.pdf.

To help permittees and NPDES permitting and WQS authorities implement the provisions of the CSO Control Policy, EPA has developed the following guidance documents:

- Combined Sewer Overflows - Guidance for Long-Term Control Plan (EPA 832-B-95-002)

- Combined Sewer Overflows - Guidance for Nine Minimum Controls (EPA 832-B-95-003)
- Combined Sewer Overflows - Guidance for Screening and Ranking Combined Sewer System Discharges (EPA 832-B-95-004)
- Combined Sewer Overflows - Guidance for Monitoring and Modeling (EPA 832-B-95-005)
- Combined Sewer Overflows - Guidance for Financial Capability Assessment (EPA 832-B-95-006)
- Combined Sewer Overflows - Guidance for Funding Options (EPA 832-B-95-007)
- Combined Sewer Overflows - Guidance for Permit Writers (EPA 832-B-95-008)
- Combined Sewer Overflows - Questions and Answers on Water Quality Standards and the CSO Program (EPA 832-B-95-009)

Permits / Applications (CSO Related):

1. NJPDES/DSW CSO Permit Application dated July 29, 2009. [A]
2. Existing NJPDES/DSW Permit General Permit Authorization NJG0108766, under the Master General Permit NJ0105023 issued June 30, 2004 and effective August 1, 2004. [A]

Correspondences/Submittals (CSO Related):

A complete list of studies performed by all CSO permittees in BCUA's hydraulically connected system is summarized in Appendix C at the end of this permit.

Meetings / Site Visits:

1. CSO Roll-out meeting at Bergen Counties Utilities Authority on November 13, 2013.

Permits / Applications (Category A - Sanitary Wastewater Related):

1. NJPDES/DSW Permit Application dated 4/12/07 [A]
2. Existing NJPDES/DSW Permit NJ0020028, issued 8/16/02 and effective 10/1/02. [A]
3. Major Modification to NJPDES/DSW Permit NJ0020028, issued 3/25/05 and effective on 4/1/05. [A]

Correspondences/Submittals (Category A - Sanitary Wastewater Related):

1. Request for an adjudicatory hearing, dated 9/18/02. [A]
2. Request for a stay of specified permit conditions, dated 9/18/02. [A]
3. NJDEP response to request for stay of permit conditions, dated 3/17/04. [A]
4. NJDEP letter dated 3/15/07 granting a stay of the Total Recoverable Nickel limitation. [A]
5. BCUA vs. NJDEP, Stipulation of Partial Settlement Agreement, dated January 15, 2008. [A]
6. NJDEP letter dated 4/29/08 granting a stay of the Total Cyanide limitation. [A]
7. Cost and Performance Analysis Report, Volume 2-Technical Guidance Manual, dated December 2006, submitted by Hatch Mott MacDonald.
8. Cost and Performance Analysis, Volume 1, dated March 2007, submitted by Hatch Mott MacDonald.
9. Public Participation Report, Bergen County CSO Group, dated April 2007, submitted by Hatch Mott MacDonald.

Meetings / Site Visits:

1. CSO roll-out meeting on November 13, 2013.

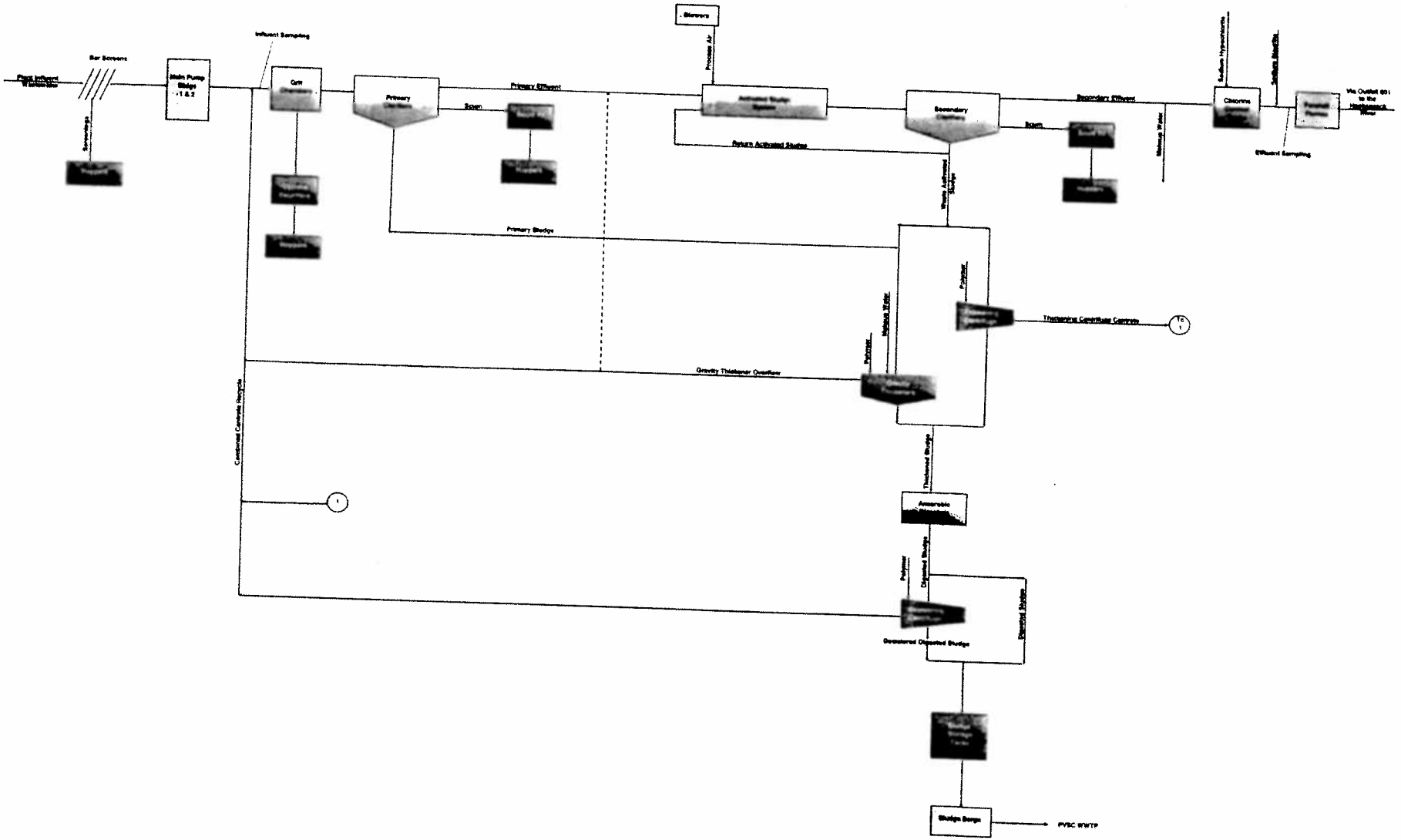
Footnotes:

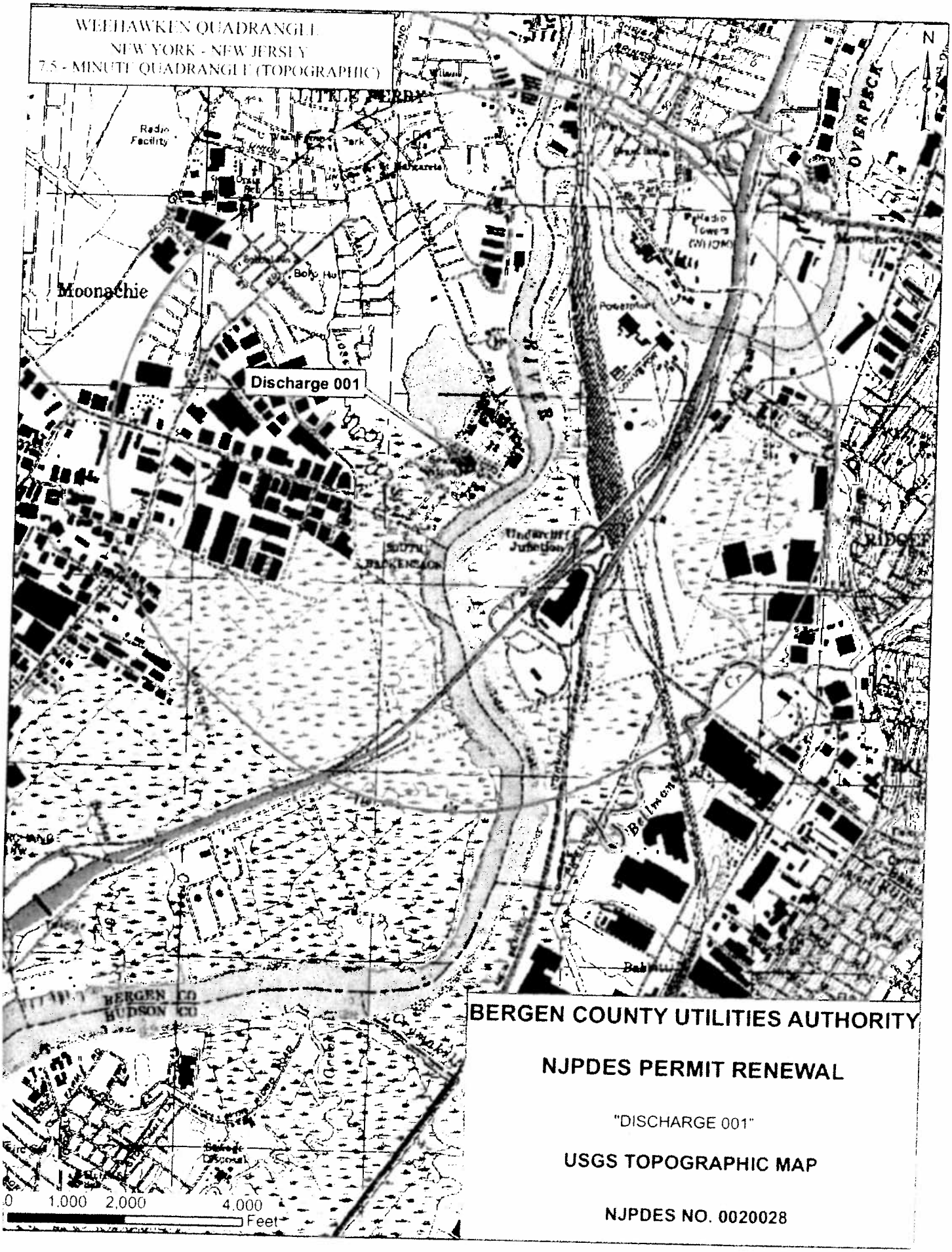
[A] Denotes items that may be found in the NJPDES/DSW Administrative Record Library located in the NJDEP Central File Room, 401 East State Street, Trenton, New Jersey.

[B] Denotes items that may be found on the New Jersey Department of Environmental Protection (NJDEP) website located at "http://www.state.nj.us/dep/".

[C] Denotes items that may be found on the United States Environmental Protection Agency (USEPA) website at "http://www.epa.gov/".

Section 3A.
Bergen County Utilities Authority WWTP
Line Drawing
March 2007





BERGEN COUNTY UTILITIES AUTHORITY

NJPDES PERMIT RENEWAL

"DISCHARGE 001"

USGS TOPOGRAPHIC MAP

NJPDES NO. 0020028

PART I
GENERAL REQUIREMENTS: NJPDES

A. General Requirements of all NJPDES Permits

1. Requirements Incorporated by Reference

a. The permittee shall comply with all conditions set forth in this permit and with all the applicable requirements incorporated into this permit by reference. The permittee is required to comply with the regulations, including those cited in paragraphs b. through e. following, which are in effect as of the effective date of the final permit.

b. General Conditions

Penalties for Violations	N.J.A.C. 7:14-8.1 et seq.
Incorporation by Reference	N.J.A.C. 7:14A-2.3
Toxic Pollutants	N.J.A.C. 7:14A-6.2(a)4i
Duty to Comply	N.J.A.C. 7:14A-6.2(a)1 & 4
Duty to Mitigate	N.J.A.C. 7:14A-6.2(a)5 & 11
Inspection and Entry	N.J.A.C. 7:14A-2.11(e)
Enforcement Action	N.J.A.C. 7:14A-2.9
Duty to Reapply	N.J.A.C. 7:14A-4.2(e)3
Signatory Requirements for Applications and Reports	N.J.A.C. 7:14A-4.9
Effect of Permit/Other Laws	N.J.A.C. 7:14A-6.2(a)6 & 7 & 2.9(c)
Severability	N.J.A.C. 7:14A-2.2
Administrative Continuation of Permits	N.J.A.C. 7:14A-2.8
Permit Actions	N.J.A.C. 7:14A-2.7(c)
Reopener Clause	N.J.A.C. 7:14A-6.2(a)10
Permit Duration and Renewal	N.J.A.C. 7:14A-2.7(a) & (b)
Consolidation of Permit Process	N.J.A.C. 7:14A-15.5
Confidentiality	N.J.A.C. 7:14A-18.2 & 2.11(g)
Fee Schedule	N.J.A.C. 7:14A-3.1
Treatment Works Approval	N.J.A.C. 7:14A-22 & 23

c. Operation And Maintenance

Need to Halt or Reduce not a Defense	N.J.A.C. 7:14A-2.9(b)
Proper Operation and Maintenance	N.J.A.C. 7:14A-6.12

d. Monitoring And Records

Monitoring	N.J.A.C. 7:14A-6.5
Recordkeeping	N.J.A.C. 7:14A-6.6
Signatory Requirements for Monitoring Reports	N.J.A.C. 7:14A-6.9

e. Reporting Requirements

Planned Changes	N.J.A.C. 7:14A-6.7
Reporting of Monitoring Results	N.J.A.C. 7:14A-6.8
Noncompliance Reporting	N.J.A.C. 7:14A-6.10 & 6.8(h)
Hotline/Two Hour & Twenty-four Hour Reporting	N.J.A.C. 7:14A-6.10(c) & (d)
Written Reporting	N.J.A.C. 7:14A-6.10(e) &(f) & 6.8(h)
Duty to Provide Information	N.J.A.C. 7:14A-2.11, 6.2(a)14 & 18.1
Schedules of Compliance	N.J.A.C. 7:14A-6.4
Transfer	N.J.A.C. 7:14A-6.2(a)8 & 16.2

PART II

GENERAL REQUIREMENTS: DISCHARGE CATEGORIES

A. Additional Requirements Incorporated By Reference

1. Requirements for Discharges to Surface Waters

a. In addition to conditions in Part I of this permit, the conditions in this section are applicable to activities at the permitted location and are incorporated by reference. The permittee is required to comply with the regulations which are in effect as of the effective date of the final permit.

i. Surface Water Quality Standards N.J.A.C. 7:9B-1

ii. Water Quality Management Planning Regulations N.J.A.C. 7:15

B. General Conditions

1. Scope

a. The issuance of this permit shall not be considered as a waiver of any applicable federal, state, and local rules, regulations and ordinances.

2. Permit Renewal Requirement

a. Permit conditions remain in effect and enforceable until and unless the permit is modified, renewed or revoked by the Department.

b. Submit a complete permit renewal application: 180 days before the Expiration Date.

3. Notification of Non-Compliance

a. The permittee shall notify the Department of all non-compliance when required in accordance with N.J.A.C. 7:14A-6.10 by contacting the DEP HOTLINE at 1-877-WARNDEP (1-877-927-6337).

b. The permittee shall submit a written report as required by N.J.A.C. 7:14A-6.10 within five days.

4. Notification of Changes

a. The permittee shall give written notification to the Department of any planned physical or operational alterations or additions to the permitted facility when the alteration is expected to result in a significant change in the permittee's discharge and/or residuals use or disposal practices including the cessation of discharge in accordance with N.J.A.C. 7:14A-6.7.

b. Prior to any change in ownership, the current permittee shall comply with the requirements of N.J.A.C. 7:14A-16.2, pertaining to the notification of change in ownership.

5. Access to Information

a. The permittee shall allow an authorized representative of the Department, upon the presentation of credentials, to enter upon a person's premises, for purposes of inspection, and to access / copy any records that must be kept under the conditions of this permit.

6. Operator Certification

a. Pursuant to N.J.A.C. 7:10A-1.1 et seq. every wastewater system not exempt pursuant to N.J.A.C. 7:10A-1.1(b) requires a licensed operator. The operator of a system shall meet the Department's requirements pursuant to N.J.A.C. 7:10A-1.1 and any amendments. The name of the proposed operator, where required shall be submitted to the Department at the address below, in order that his/her qualifications may be determined prior to initiating operation of the treatment works.

i. Notifcations shall be submitted to:
NJDEP
Examination and Licensing Unit
P.O. Box 417
Trenton, New Jersey 08625
(609)777-1012

b. The permittee shall notify the Department of any changes in licensed operator within two weeks of the change.

7. Operation Restrictions

a. The operation of a waste treatment or disposal facility shall at no time create: (a) a discharge, except as authorized by the Department in the manner and location specified in Part III of this permit; (b) any discharge to the waters of the state or any standing or ponded condtion for water or waste, except as specifically authorized by a valid NJPDES permit.

PART III
LIMITS AND MONITORING REQUIREMENTS

MONITORED LOCATION:	RECEIVING STREAM:	STREAM CLASSIFICATION:	DISCHARGE CATEGORY(IES):
001A Sanitary Outfall	Hackensack River	SE2(C2)	A - Sanitary Wastewater

Location Description

The permittee is authorized to discharge to the Hackensack River (SE-2), via a discharge channel, through outfall Discharge Serial Number (DSN) 001, at the following coordinates:
Latitude 40d 49' 54" Longitude 74d 01' 57"

Contributing Waste Types

Sanitary

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: Within twenty-five days after the end of every month beginning from the effective date of the permit (EDP)..

Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: 1-Initial **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Flow, In Conduit or Thru Treatment Plant	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	MGD	*****	*****	*****	*****	Continuous	Metered
January thru December	QL	***	***		***	***	***			
pH	Raw Sew/influent	*****	*****	*****	REPORT Report Per Minimum	*****	REPORT Report Per Maximum	SU	6/Day	Grab
January thru December	QL	***	***		***	***	***			
pH	Effluent Gross Value	*****	*****	*****	6.0 Report Per Minimum	*****	9.0 Report Per Maximum	SU	6/Day	Grab
January thru December	QL	***	***		***	***	***			
Alkalinity, Total (as CaCO3)	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	MG/L	1/Day	24 Hour Composite
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: Within twenty-five days after the end of every month beginning from the effective date of the permit (EDP)..

Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: 1-Initial **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Solids, Total Suspended	Raw Sew/influent	REPORT Monthly Average	REPORT Weekly Average	KG/DAY	*****	REPORT Monthly Average	REPORT Weekly Average	MG/L	1/Day	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Solids, Total Suspended	Effluent Gross Value	8550 Monthly Average	12825 Weekly Average	KG/DAY	*****	30 Monthly Average	45 Weekly Average	MG/L	1/Day	24 Hour Composite
May thru October	QL	***	***		***	***	***			
Solids, Total Suspended	Effluent Gross Value	9608 Monthly Average	14412 Weekly Average	KG/DAY	*****	30 Monthly Average	45 Weekly Average	MG/L	1/Day	24 Hour Composite
November thru April	QL	***	***		***	***	***			
Solids, Total Suspended	Percent Removal	*****	*****	*****	85 Monthly Av Minimum	*****	*****	PERCENT	1/Day	Calculated
January thru December	QL	***	***		***	***	***			
Oil and Grease	Effluent Gross Value	*****	*****	*****	*****	10 Monthly Average	15 Instant Maximum	MG/L	2/Week	Grab
January thru December	QL	***	***		***	***	***			
Nitrogen, Ammonia Total (as N)	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	MG/L	1/Day	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Coliform, Fecal General	Effluent Gross Value	*****	*****	*****	*****	200 Monthly Geo Avg	400 Weekly Geometric	#/100ML	1/Day	Grab
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: Within twenty-five days after the end of every month beginning from the effective date of the permit (EDP)..

Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: 1-Initial **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
BOD, Carbonaceous 5 Day, 20oC January thru December	Raw Sew/influent	REPORT Monthly Average	REPORT Weekly Average	KG/DAY	*****	REPORT Monthly Average	REPORT Weekly Average	MG/L	1/Day	24 Hour Composite
	QL	***	***		***	***	***			
BOD, Carbonaceous 5 Day, 20oC May thru October	Effluent Gross Value	7125 Monthly Average	11400 Weekly Average	KG/DAY	*****	25 Monthly Average	40 Weekly Average	MG/L	1/Day	24 Hour Composite
	QL	***	***		***	***	***			
BOD, Carbonaceous 5 Day, 20oC November thru April	Effluent Gross Value	8007 Monthly Average	12811 Weekly Average	KG/DAY	*****	25 Monthly Average	40 Weekly Average	MG/L	1/Day	24 Hour Composite
	QL	***	***		***	***	***			
BOD, Carbonaceous 5 Day, 20oC January thru December	Percent Removal	*****	*****	*****	85 Monthly Av Minimum	*****	*****	PERCENT	1/Day	Calculated
	QL	***	***		***	***	***			
IC25 Statre 7day Chr Mysid Bahia January thru December	Effluent Gross Value	*****	*****	*****	16 Report Per Minimum	*****	*****	%EFFL	1/Quarter	Composite
	QL	***	***		***	***	***			
Chlorine Produced Oxidants January thru December	Effluent Gross Value	10.76 Monthly Average	17.34 Daily Maximum	KG/DAY	*****	0.04 Monthly Average	0.06 Daily Maximum	MG/L	6/Day	Grab
	MDL	28.4	28.4		***	0.1	0.1			
Temperature, oC January thru December	Raw Sew/influent	*****	*****	*****	REPORT Report Per Minimum	REPORT Monthly Average	REPORT Report Per Maximum	DEG.C	6/Day	Grab
	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: Within twenty-five days after the end of every month beginning from the effective date of the permit (EDP)..

Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: 1-Initial **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Temperature, oC	Effluent Gross Value	*****	*****	*****	REPORT Report Per Minimum	REPORT Monthly Average	REPORT Report Per Maximum	DEG.C	6/Day	Grab
January thru December	QL	***	***		***	***	***			
Oxygen, Dissolved (DO)	Effluent Gross Value	*****	*****	*****	4.0 Report Per Minimum	*****	*****	MG/L	1/Day	Grab
January thru December	QL	***	***		***	***	***			
Manganese, Total Recoverable	Effluent Gross Value	Monthly Average	Daily Maximum	KG/DAY	*****	600 Monthly Average	REPORT Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Arsenic, Total Recoverable (as As)	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Nickel, Total Recoverable	Effluent Gross Value	Monthly Average	Daily Maximum	KG/DAY	*****	138 Monthly Average	REPORT Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Zinc, Total Recoverable	Effluent Gross Value	Monthly Average	Daily Maximum	KG/DAY	*****	281 Monthly Average	REPORT Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Cadmium, Total Recoverable	Effluent Gross Value	Monthly Average	Daily Maximum	KG/DAY	*****	54.9 Monthly Average	REPORT Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: Within twenty-five days after the end of every month beginning from the effective date of the permit (EDP)..

Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: 1-Initial **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Lead, Total Recoverable	Effluent Gross Value	Monthly Average	Daily Maximum	KG/DAY	*****	156 Monthly Average	REPORT Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Copper, Total Recoverable	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Mercury Total Recoverable	Effluent Gross Value	0.25 Monthly Average	REPORT Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Butyl benzyl phthalate	Effluent Gross Value	Monthly Average	Daily Maximum	KG/DAY	*****	1140 Monthly Average	REPORT Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Diethyl phthalate	Effluent Gross Value	Monthly Average	Daily Maximum	KG/DAY	*****	26400 Monthly Average	REPORT Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Chloroform	Effluent Gross Value	Monthly Average	Daily Maximum	KG/DAY	*****	12600 Monthly Average	REPORT Daily Maximum	UG/L	1/Month	Grab
January thru December	QL	***	***		***	***	***			
Toluene	Effluent Gross Value	Monthly Average	Daily Maximum	KG/DAY	*****	90000 Monthly Average	REPORT Daily Maximum	UG/L	1/Month	Grab
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: Within twenty-five days after the end of every month beginning from the effective date of the permit (EDP)..

Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: 1-Initial **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Methylene Chloride	Effluent Gross Value	Monthly Average	Daily Maximum	KG/DAY	*****	3906 Monthly Average	REPORT Daily Maximum	UG/L	1/Month	Grab
January thru December	QL	***	***		***	***	***			

Table III - A - 2: Surface Water DMR Limits and Monitoring Requirements

PHASE: 2-Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Flow, In Conduit or Thru Treatment Plant	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	MGD	*****	*****	*****	*****	Continuous	Metered
January thru December	QL	***	***		***	***	***			
pH	Raw Sew/influent	*****	*****	*****	REPORT Report Per Minimum	*****	REPORT Report Per Maximum	SU	6/Day	Grab
January thru December	QL	***	***		***	***	***			
pH	Effluent Gross Value	*****	*****	*****	6.0 Report Per Minimum	*****	9.0 Report Per Maximum	SU	6/Day	Grab
January thru December	QL	***	***		***	***	***			
Alkalinity, Total (as CaCO3)	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	MG/L	1/Day	24 Hour Composite
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: Within twenty-five days after the end of every month beginning from the effective date of the permit (EDP)..

Table III - A - 2: Surface Water DMR Limits and Monitoring Requirements

PHASE: 2-Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Solids, Total Suspended	Raw Sew/influent	REPORT Monthly Average	REPORT Weekly Average	KG/DAY	*****	REPORT Monthly Average	REPORT Weekly Average	MG/L	1/Day	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Solids, Total Suspended	Effluent Gross Value	8550 Monthly Average	12825 Weekly Average	KG/DAY	*****	30 Monthly Average	45 Weekly Average	MG/L	1/Day	24 Hour Composite
May thru October	QL	***	***		***	***	***			
Solids, Total Suspended	Effluent Gross Value	9608 Monthly Average	14412 Weekly Average	KG/DAY	*****	30 Monthly Average	45 Weekly Average	MG/L	1/Day	24 Hour Composite
November thru April	QL	***	***		***	***	***			
Solids, Total Suspended	Percent Removal	*****	*****	*****	85 Monthly Av Minimum	*****	*****	PERCENT	1/Day	Calculated
January thru December	QL	***	***		***	***	***			
Oil and Grease	Effluent Gross Value	*****	*****	*****	*****	10 Monthly Average	15 Instant Maximum	MG/L	2/Week	Grab
January thru December	QL	***	***		***	***	***			
Nitrogen, Ammonia Total (as N)	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	MG/L	1/Day	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Coliform, Fecal General	Effluent Gross Value	*****	*****	*****	*****	200 Monthly Geo Avg	400 Weekly Geometric	#/100ML	1/Day	Grab
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: Within twenty-five days after the end of every month beginning from the effective date of the permit (EDP)..

Table III - A - 2: Surface Water DMR Limits and Monitoring Requirements

PHASE: 2-Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
BOD, Carbonaceous 5 Day, 20oC January thru December	Raw Sew/influent	REPORT Monthly Average	REPORT Weekly Average	KG/DAY	*****	REPORT Monthly Average	REPORT Weekly Average	MG/L	1/Day	24 Hour Composite
	QL	***	***		***	***	***			
BOD, Carbonaceous 5 Day, 20oC May thru October	Effluent Gross Value	7125 Monthly Average	11400 Weekly Average	KG/DAY	*****	25 Monthly Average	40 Weekly Average	MG/L	1/Day	24 Hour Composite
	QL	***	***		***	***	***			
BOD, Carbonaceous 5 Day, 20oC November thru April	Effluent Gross Value	8007 Monthly Average	12811 Weekly Average	KG/DAY	*****	25 Monthly Average	40 Weekly Average	MG/L	1/Day	24 Hour Composite
	QL	***	***		***	***	***			
BOD, Carbonaceous 5 Day, 20oC January thru December	Percent Removal	*****	*****	*****	85 Monthly Av Minimum	*****	*****	PERCENT	1/Day	Calculated
	QL	***	***		***	***	***			
IC25 Statre 7day Chr Mysid Bahia January thru December	Effluent Gross Value	*****	*****	*****	16 Report Per Minimum	*****	*****	%EFFL	1/Quarter	Composite
	QL	***	***		***	***	***			
Chlorine Produced Oxidants January thru December	Effluent Gross Value	10.76 Monthly Average	17.34 Daily Maximum	KG/DAY	*****	0.04 Monthly Average	0.06 Daily Maximum	MG/L	6/Day	Grab
	MDL	28.4	28.4		***	0.1	0.1			
Temperature, oC January thru December	Raw Sew/influent	*****	*****	*****	REPORT Report Per Minimum	REPORT Monthly Average	REPORT Report Per Maximum	DEG.C	6/Day	Grab
	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:
Submit a Monthly DMR: Within twenty-five days after the end of every month beginning from the effective date of the permit (EDP)..

Table III - A - 2: Surface Water DMR Limits and Monitoring Requirements

PHASE: 2-Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Temperature, oC	Effluent Gross Value	*****	*****	*****	REPORT Report Per Minimum	REPORT Monthly Average	REPORT Report Per Maximum	DEG.C	6/Day	Grab
January thru December	QL	***	***		***	***	***			
Oxygen, Dissolved (DO)	Effluent Gross Value	*****	*****	*****	4.0 Report Per Minimum	*****	*****	MG/L	1/Day	Grab
January thru December	QL	***	***		***	***	***			
Manganese, Total Recoverable	Effluent Gross Value	Monthly Average	Daily Maximum	KG/DAY	*****	600 Monthly Average	REPORT Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Arsenic, Total Recoverable (as As)	Effluent Gross Value	0.22 Monthly Average	0.36 Daily Maximum	KG/DAY	*****	0.77 Monthly Average	1.26 Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Nickel, Total Recoverable	Effluent Gross Value	Monthly Average	Daily Maximum	KG/DAY	*****	138 Monthly Average	REPORT Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Zinc, Total Recoverable	Effluent Gross Value	Monthly Average	Daily Maximum	KG/DAY	*****	281 Monthly Average	REPORT Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Cadmium, Total Recoverable	Effluent Gross Value	Monthly Average	Daily Maximum	KG/DAY	*****	54.9 Monthly Average	REPORT Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:
Submit a Monthly DMR: Within twenty-five days after the end of every month beginning from the effective date of the permit (EDP)..

Table III - A - 2: Surface Water DMR Limits and Monitoring Requirements

PHASE: 2-Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Lead, Total Recoverable	Effluent Gross Value	Monthly Average	Daily Maximum	KG/DAY	*****	156 Monthly Average	REPORT Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Copper, Total Recoverable	Effluent Gross Value	5.0 Monthly Average	7.7 Daily Maximum	KG/DAY	*****	17.5 Monthly Average	27.2 Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Mercury Total Recoverable	Effluent Gross Value	0.25 Monthly Average	REPORT Daily Maximum	KG/DAY	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Butyl benzyl phthalate	Effluent Gross Value	Monthly Average	Daily Maximum	KG/DAY	*****	1140 Monthly Average	REPORT Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Diethyl phthalate	Effluent Gross Value	Monthly Average	Daily Maximum	KG/DAY	*****	26400 Monthly Average	REPORT Daily Maximum	UG/L	1/Month	24 Hour Composite
January thru December	QL	***	***		***	***	***			
Chloroform	Effluent Gross Value	Monthly Average	Daily Maximum	KG/DAY	*****	12600 Monthly Average	REPORT Daily Maximum	UG/L	1/Month	Grab
January thru December	QL	***	***		***	***	***			
Toluene	Effluent Gross Value	Monthly Average	Daily Maximum	KG/DAY	*****	90000 Monthly Average	REPORT Daily Maximum	UG/L	1/Month	Grab
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: Within twenty-five days after the end of every month beginning from the effective date of the permit (EDP)..

Table III - A - 2: Surface Water DMR Limits and Monitoring Requirements

PHASE: 2-Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Methylene Chloride	Effluent Gross Value	Monthly Average	Daily Maximum	KG/DAY	*****	3906 Monthly Average	REPORT Daily Maximum	UG/L	1/Month	Grab
January thru December	QL	***	***		***	***	***			

Surface Water WCR - Annual Reporting Requirements:

Submit an Annual WCR: within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP). Pursuant to N.J.A.C. 7:14A-19.3(c)7i, the effluent sample for priority pollutant scan shall be collected to coincide with the influent and sludge monitoring for priority pollutants.

Table III - A - 3: Surface Water WCR - Annual Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Manganese, Total Recoverable	Effluent Gross Value	REPORT RQL = 6	UG/L	24 Hour Composite	January thru December
Cyanide, Total (as CN)	Effluent Gross Value	REPORT RQL = 40	UG/L	Grab	January thru December
Arsenic, Total (as As)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Beryllium, Total (as Be)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December

Surface Water WCR - Annual Reporting Requirements:

Submit an Annual WCR: within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP). Pursuant to N.J.A.C. 7:14A-19.3(c)7i, the effluent sample for priority pollutant scan shall be collected to coincide with the influent and sludge monitoring for priority pollutants.

Table III - A - 3: Surface Water WCR - Annual Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Cadmium, Total (as Cd)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Chromium, Total (as Cr)	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Copper, Total (as Cu)	Effluent Gross Value	REPORT RQL = 0.01	UG/L	24 Hour Composite	January thru December
Lead, Total (as Pb)	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Thallium, Total (as Tl)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Nickel, Total (as Ni)	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Silver, Total (as Ag)	Effluent Gross Value	REPORT RQL = 2	UG/L	24 Hour Composite	January thru December
Zinc, Total (as Zn)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Antimony, Total (as Sb)	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Selenium, Total (as Se)	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Mercury, Total (as Hg)	Effluent Gross Value	REPORT RQL = 1	UG/L	24 Hour Composite	January thru December
Acenaphthylene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Acenaphthene	Effluent Gross Value	REPORT RQL = 9.5	UG/L	24 Hour Composite	January thru December
Anthracene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Benzo(b)fluoranthene (3,4-benzo)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December

Surface Water WCR - Annual Reporting Requirements:

Submit an Annual WCR: within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP). Pursuant to N.J.A.C. 7:14A-19.3(c)7i, the effluent sample for priority pollutant scan shall be collected to coincide with the influent and sludge monitoring for priority pollutants.

Table III - A - 3: Surface Water WCR - Annual Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Benzo(k)fluoranthene	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Benzo(a)pyrene	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Bis(2-chloroethyl) ether	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Bis(2-chloroethoxy) methane	Effluent Gross Value	REPORT RQL = 26.5	UG/L	24 Hour Composite	January thru December
Bis (2-chloroiso-propyl) ether	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Butyl benzyl phthalate	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Chrysene	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Diethyl phthalate	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Dimethyl phthalate	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
1,2-Diphenyl-hydrazine	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Fluoranthene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Fluorene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Hexachlorocyclo-pentadiene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Hexachloroethane	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Indeno(1,2,3-cd)-pyrene	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December

Surface Water WCR - Annual Reporting Requirements:

Submit an Annual WCR: within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP). Pursuant to N.J.A.C. 7:14A-19.3(c)7i, the effluent sample for priority pollutant scan shall be collected to coincide with the influent and sludge monitoring for priority pollutants.

Table III - A - 3: Surface Water WCR - Annual Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Isophorone	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
N-nitrosodi-n-propylamine	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
N-nitrosodiphenyl-amine	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
N-nitrosodimethyl-amine	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Nitrobenzene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Phenanthrene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Pyrene	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Benzo(ghi)perylene	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Benzo(a)anthracene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
1,2-Dichlorobenzene	Effluent Gross Value	REPORT RQL = 9	UG/L	24 Hour Composite	January thru December
1,2,4-Trichloro-benzene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Dibenzo(a,h) anthracene	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
1,3-Dichlorobenzene	Effluent Gross Value	REPORT RQL = 9	UG/L	24 Hour Composite	January thru December
1,4-Dichlorobenzene	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
2-Chloronaphthalene	Effluent Gross Value	REPORT RQL = 9.5	UG/L	24 Hour Composite	January thru December

Surface Water WCR - Annual Reporting Requirements:

Submit an Annual WCR: within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP). Pursuant to N.J.A.C. 7:14A-19.3(c)7i, the effluent sample for priority pollutant scan shall be collected to coincide with the influent and sludge monitoring for priority pollutants.

Table III - A - 3: Surface Water WCR - Annual Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
2,4-Dinitrotoluene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
2,6-Dinitrotoluene	Effluent Gross Value	REPORT RQL = 9.5	UG/L	24 Hour Composite	January thru December
3,3'-Dichloro-benzidine	Effluent Gross Value	REPORT RQL = 60	UG/L	24 Hour Composite	January thru December
4-Bromophenyl phenyl ether	Effluent Gross Value	REPORT RQL = 9.5	UG/L	24 Hour Composite	January thru December
Naphthalene	Effluent Gross Value	REPORT RQL = 8	UG/L	24 Hour Composite	January thru December
Bis(2-ethylhexyl) phthalate	Effluent Gross Value	REPORT RQL = 30	UG/L	24 Hour Composite	January thru December
Di-n-butyl phthalate	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Benzidine	Effluent Gross Value	REPORT RQL = 50	UG/L	24 Hour Composite	January thru December
Hexachlorobenzene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Hexachlorobutadiene	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
1,3-Dichloropropene	Effluent Gross Value	REPORT RQL = 7	UG/L	Grab	January thru December
Dichlorobromomethane	Effluent Gross Value	REPORT	UG/L	Grab	January thru December
Carbon Tetrachloride	Effluent Gross Value	REPORT RQL = 6	UG/L	Grab	January thru December
1,2-Dichloroethane	Effluent Gross Value	REPORT RQL = 3	UG/L	Grab	January thru December
Bromoform	Effluent Gross Value	REPORT RQL = 8	UG/L	Grab	January thru December

Surface Water WCR - Annual Reporting Requirements:

Submit an Annual WCR: within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP). Pursuant to N.J.A.C. 7:14A-19.3(c)7i, the effluent sample for priority pollutant scan shall be collected to coincide with the influent and sludge monitoring for priority pollutants.

Table III - A - 3: Surface Water WCR - Annual Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Chloroform	Effluent Gross Value	REPORT RQL = 5	UG/L	Grab	January thru December
Toluene	Effluent Gross Value	REPORT RQL = 6	UG/L	Grab	January thru December
Benzene	Effluent Gross Value	REPORT RQL = 7	UG/L	Grab	January thru December
Acrolein	Effluent Gross Value	REPORT RQL = 50	UG/L	Grab	January thru December
Acrylonitrile	Effluent Gross Value	REPORT RQL = 50	UG/L	Grab	January thru December
Chlorobenzene	Effluent Gross Value	REPORT RQL = 6	UG/L	Grab	January thru December
Chlorodibromomethane	Effluent Gross Value	REPORT RQL = 6	UG/L	Grab	January thru December
Ethylbenzene	Effluent Gross Value	REPORT RQL = 6	UG/L	Grab	January thru December
Methyl Bromide	Effluent Gross Value	REPORT RQL = 9	UG/L	Grab	January thru December
Methyl Chloride	Effluent Gross Value	REPORT RQL = 10	UG/L	Grab	January thru December
Methylene Chloride	Effluent Gross Value	REPORT RQL = 6	UG/L	Grab	January thru December
Tetrachloroethylene	Effluent Gross Value	REPORT RQL = 9	UG/L	Grab	January thru December
Trichlorofluoro-methane	Effluent Gross Value	REPORT RQL = 5	UG/L	24 Hour Composite	January thru December
1,1-Dichloroethane	Effluent Gross Value	REPORT RQL = 6	UG/L	24 Hour Composite	January thru December
1,1-Dichloroethylene	Effluent Gross Value	REPORT RQL = 6	UG/L	Grab	January thru December

Surface Water WCR - Annual Reporting Requirements:

Submit an Annual WCR: within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP). Pursuant to N.J.A.C. 7:14A-19.3(c)7i, the effluent sample for priority pollutant scan shall be collected to coincide with the influent and sludge monitoring for priority pollutants.

Table III - A - 3: Surface Water WCR - Annual Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
1,1,1-Trichloro-ethane	Effluent Gross Value	REPORT RQL = 6	UG/L	24 Hour Composite	January thru December
1,1,2-Trichloro-ethane	Effluent Gross Value	REPORT RQL = 6	UG/L	Grab	January thru December
1,1,2,2-Tetrachloro-ethane	Effluent Gross Value	REPORT RQL = 10	UG/L	Grab	January thru December
1,2-Dichloropropane	Effluent Gross Value	REPORT RQL = 5	UG/L	24 Hour Composite	January thru December
1,2-trans-Dichloro-ethylene	Effluent Gross Value	REPORT RQL = 4	UG/L	24 Hour Composite	January thru December
2-Chloroethyl Vinyl Ether (Mixed)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
trans-1,3-Dichloro-propene	Effluent Gross Value	REPORT RQL = 7	UG/L	Grab	January thru December
cis-1,3-Dichloro-propene	Effluent Gross Value	REPORT RQL = 5	UG/L	Grab	January thru December
Vinyl Chloride	Effluent Gross Value	REPORT RQL = 10	UG/L	Grab	January thru December
Trichloroethylene	Effluent Gross Value	REPORT RQL = 5	UG/L	Grab	January thru December
Methoxychlor	Effluent Gross Value	REPORT RQL = .2	UG/L	24 Hour Composite	January thru December
Chloroethane	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Parachloro-m-cresol	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Phenols	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Delta BHC, Total (ug/l)	Effluent Gross Value	REPORT RQL = 0.02	*****	24 Hour Composite	January thru December

Surface Water WCR - Annual Reporting Requirements:

Submit an Annual WCR: within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP). Pursuant to N.J.A.C. 7:14A-19.3(c)7i, the effluent sample for priority pollutant scan shall be collected to coincide with the influent and sludge monitoring for priority pollutants.

Table III - A - 3: Surface Water WCR - Annual Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Endosulfan Sulfate	Effluent Gross Value	REPORT RQL = 0.08	UG/L	24 Hour Composite	January thru December
Beta Endosulfan	Effluent Gross Value	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
Alpha Endosulfan	Effluent Gross Value	REPORT RQL = 0.02	UG/L	24 Hour Composite	January thru December
Endrin Aldehyde	Effluent Gross Value	REPORT RQL = 0.1	UG/L	24 Hour Composite	January thru December
PCB-1016 (Arochlor 1016)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
2,3,7,8-Tetrachloro-dibenzo-p-dioxin	Effluent Gross Value	REPORT RQL = 0.01	UG/L	24 Hour Composite	January thru December
4,4'-DDT(p,p'-DDT)	Effluent Gross Value	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
4,4'-DDD(p,p'-DDD)	Effluent Gross Value	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
4,4'-DDE(p,p'-DDE)	Effluent Gross Value	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
Aldrin	Effluent Gross Value	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
Alpha BHC	Effluent Gross Value	REPORT RQL = 0.02	UG/L	24 Hour Composite	January thru December
Beta BHC	Effluent Gross Value	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
Gamma BHC (lindane),	Effluent Gross Value	REPORT RQL = 0.03	UG/L	24 Hour Composite	January thru December
Chlordane	Effluent Gross Value	REPORT RQL = 0.2	UG/L	24 Hour Composite	January thru December
Dieldrin	Effluent Gross Value	REPORT RQL = 0.03	UG/L	24 Hour Composite	January thru December

Surface Water WCR - Annual Reporting Requirements:

Submit an Annual WCR: within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP). Pursuant to N.J.A.C. 7:14A-19.3(c)7i, the effluent sample for priority pollutant scan shall be collected to coincide with the influent and sludge monitoring for priority pollutants.

Table III - A - 3: Surface Water WCR - Annual Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Endosulfans, Total (alpha and beta)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Endrin	Effluent Gross Value	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
Toxaphene	Effluent Gross Value	REPORT RQL = 1	UG/L	24 Hour Composite	January thru December
Heptachlor	Effluent Gross Value	REPORT RQL = 0.02	UG/L	24 Hour Composite	January thru December
Heptachlor Epoxide	Effluent Gross Value	REPORT RQL = 0.4	UG/L	24 Hour Composite	January thru December
PCB-1221 (Arochlor 1221)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1232 (Arochlor 1232)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1242 (Arochlor 1242)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1248 (Arochlor 1248)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1254 (Arochlor 1254)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1260 (Arochlor 1260)	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Polychlorinated Biphenyls (PCBs)	Effluent Gross Value	REPORT RQL = 0.5	UG/L	24 Hour Composite	January thru December
2-Chlorophenol	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
2-Nitrophenol	Effluent Gross Value	REPORT RQL = 18	UG/L	24 Hour Composite	January thru December
2,4-Dichlorophenol	Effluent Gross Value	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December

Surface Water WCR - Annual Reporting Requirements:

Submit an Annual WCR: within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP). Pursuant to N.J.A.C. 7:14A-19.3(c)7i, the effluent sample for priority pollutant scan shall be collected to coincide with the influent and sludge monitoring for priority pollutants.

Table III - A - 3: Surface Water WCR - Annual Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
2,4-Dimethylphenol	Effluent Gross Value	REPORT RQL = 13.5	UG/L	24 Hour Composite	January thru December
2,4-Dinitrophenol	Effluent Gross Value	REPORT RQL = 40	UG/L	24 Hour Composite	January thru December
2,4,6-Trichloro-phenol	Effluent Gross Value	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
4-Chlorophenyl phenyl ether	Effluent Gross Value	REPORT RQL = 21	UG/L	24 Hour Composite	January thru December
4-Nitrophenol	Effluent Gross Value	REPORT RQL = 12	UG/L	24 Hour Composite	January thru December
4,6-Dinitro-o-cresol	Effluent Gross Value	REPORT RQL = 60	UG/L	24 Hour Composite	January thru December
Phenol Single Compound	Effluent Gross Value	REPORT	UG/L	24 Hour Composite	January thru December
Pentachlorophenol	Effluent Gross Value	REPORT RQL = 30	UG/L	24 Hour Composite	January thru December

MONITORED LOCATION: IPPI Influent IPP Requirements

RECEIVING STREAM:

STREAM CLASSIFICATION:

DISCHARGE CATEGORY(IES): A - Sanitary Wastewater

Contributing Waste Types

Sanitary

Surface Water WCR - Annual Reporting Requirements:

Submit an Annual WCR: within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP). Pursuant to N.J.A.C. 7:14A-19.3(c)7i, the influent sample for priority pollutant scan shall be collected to coincide with the effluent and sludge monitoring for priority pollutants.

Table III - B - 1: Surface Water WCR - Annual Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Cyanide, Total (as CN)	Raw Sew/influent	REPORT RQL = 40	UG/L	24 Hour Composite	January thru December
Arsenic, Total (as As)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Beryllium, Total (as Be)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Cadmium, Total (as Cd)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Chromium, Total (as Cr)	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Copper, Total (as Cu)	Raw Sew/influent	REPORT RQL = 0.01	UG/L	24 Hour Composite	January thru December
Lead, Total (as Pb)	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Thallium, Total (as Tl)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Nickel, Total (as Ni)	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Silver, Total (as Ag)	Raw Sew/influent	REPORT RQL = 2	UG/L	24 Hour Composite	January thru December
Zinc, Total (as Zn)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Antimony, Total (as Sb)	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December

Surface Water WCR - Annual Reporting Requirements:

Submit an Annual WCR: within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP). Pursuant to N.J.A.C. 7:14A-19.3(c)7i, the influent sample for priority pollutant scan shall be collected to coincide with the effluent and sludge monitoring for priority pollutants.

Table III - B - 1: Surface Water WCR - Annual Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Selenium, Total (as Se)	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Mercury, Total (as Hg)	Raw Sew/influent	REPORT RQL = 1	UG/L	24 Hour Composite	January thru December
Acenaphthylene	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Acenaphthene	Raw Sew/influent	REPORT RQL = 9.5	UG/L	24 Hour Composite	January thru December
Anthracene	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Benzo(b)fluoranthene (3,4-benzo)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Benzo(k)fluoranthene	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Benzo(a)pyrene	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Bis(2-chloroethyl) ether	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Bis(2-chloroethoxy) methane	Raw Sew/influent	REPORT RQL = 26.5	UG/L	24 Hour Composite	January thru December
Bis (2-chloroiso-propyl) ether	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Butyl benzyl phthalate	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Chrysene	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Diethyl phthalate	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Dimethyl phthalate	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December

Surface Water WCR - Annual Reporting Requirements:

Submit an Annual WCR: within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP). Pursuant to N.J.A.C. 7:14A-19.3(c)7i, the influent sample for priority pollutant scan shall be collected to coincide with the effluent and sludge monitoring for priority pollutants.

Table III - B - 1: Surface Water WCR - Annual Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
1,2-Diphenyl-hydrazine	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Fluoranthene	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Fluorene	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Hexachlorocyclo-pentadiene	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Hexachloroethane	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Indeno(1,2,3-cd)-pyrene	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Isophorone	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
N-nitrosodi-n-propylamine	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
N-nitrosodiphenyl-amine	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
N-nitrosodimethyl-amine	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Nitrobenzene	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Phenanthrene	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Pyrene	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Benzo(ghi)perylene	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Benzo(a)anthracene	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December

Surface Water WCR - Annual Reporting Requirements:

Submit an Annual WCR: within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP). Pursuant to N.J.A.C. 7:14A-19.3(c)7i, the influent sample for priority pollutant scan shall be collected to coincide with the effluent and sludge monitoring for priority pollutants.

Table III - B - 1: Surface Water WCR - Annual Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
1,2-Dichlorobenzene	Raw Sew/influent	REPORT RQL = 9	UG/L	24 Hour Composite	January thru December
1,2,4-Trichloro-benzene	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Dibenzo(a,h) anthracene	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
1,3-Dichlorobenzene	Raw Sew/influent	REPORT RQL = 9	UG/L	24 Hour Composite	January thru December
1,4-Dichlorobenzene	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
2-Chloronaphthalene	Raw Sew/influent	REPORT RQL = 9.5	UG/L	24 Hour Composite	January thru December
2,4-Dinitrotoluene	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
2,6-Dinitrotoluene	Raw Sew/influent	REPORT RQL = 9.5	UG/L	24 Hour Composite	January thru December
3,3'-Dichloro-benzidine	Raw Sew/influent	REPORT RQL = 60	UG/L	24 Hour Composite	January thru December
4-Bromophenyl phenyl ether	Raw Sew/influent	REPORT RQL = 9.5	UG/L	24 Hour Composite	January thru December
Naphthalene	Raw Sew/influent	REPORT RQL = 8	UG/L	24 Hour Composite	January thru December
Bis(2-ethylhexyl) phthalate	Raw Sew/influent	REPORT RQL = 30	UG/L	24 Hour Composite	January thru December
Di-n-butyl phthalate	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
Benzidine	Raw Sew/influent	REPORT RQL = 50	UG/L	24 Hour Composite	January thru December
Hexachlorobenzene	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December

Surface Water WCR - Annual Reporting Requirements:

Submit an Annual WCR: within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP). Pursuant to N.J.A.C. 7:14A-19.3(c)7i, the influent sample for priority pollutant scan shall be collected to coincide with the effluent and sludge monitoring for priority pollutants.

Table III - B - 1: Surface Water WCR - Annual Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Hexachlorobutadiene	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
1,3-Dichloropropene	Raw Sew/influent	REPORT RQL = 7	UG/L	24 Hour Composite	January thru December
Dichlorobromomethane	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Carbon Tetrachloride	Raw Sew/influent	REPORT RQL = 6	UG/L	24 Hour Composite	January thru December
1,2-Dichloroethane	Raw Sew/influent	REPORT RQL = 3	UG/L	24 Hour Composite	January thru December
Bromoform	Raw Sew/influent	REPORT RQL = 8	UG/L	24 Hour Composite	January thru December
Chloroform	Raw Sew/influent	REPORT RQL = 5	UG/L	24 Hour Composite	January thru December
Toluene	Raw Sew/influent	REPORT RQL = 6	UG/L	24 Hour Composite	January thru December
Benzene	Raw Sew/influent	REPORT RQL = 7	UG/L	24 Hour Composite	January thru December
Acrolein	Raw Sew/influent	REPORT RQL = 50	UG/L	24 Hour Composite	January thru December
Acrylonitrile	Raw Sew/influent	REPORT RQL = 50	UG/L	24 Hour Composite	January thru December
Chlorobenzene	Raw Sew/influent	REPORT RQL = 6	UG/L	24 Hour Composite	January thru December
Chlorodibromomethane	Raw Sew/influent	REPORT RQL = 6	UG/L	24 Hour Composite	January thru December
Ethylbenzene	Raw Sew/influent	REPORT RQL = 6	UG/L	24 Hour Composite	January thru December
Methyl Bromide	Raw Sew/influent	REPORT RQL = 9	UG/L	24 Hour Composite	January thru December

Surface Water WCR - Annual Reporting Requirements:

Submit an Annual WCR: within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP). Pursuant to N.J.A.C. 7:14A-19.3(c)7i, the influent sample for priority pollutant scan shall be collected to coincide with the effluent and sludge monitoring for priority pollutants.

Table III - B - 1: Surface Water WCR - Annual Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Methyl Chloride	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Methylene Chloride	Raw Sew/influent	REPORT RQL = 6	UG/L	24 Hour Composite	January thru December
Tetrachloroethylene	Raw Sew/influent	REPORT RQL = 9	UG/L	24 Hour Composite	January thru December
Trichlorofluoro-methane	Raw Sew/influent	REPORT RQL = 5	UG/L	24 Hour Composite	January thru December
1,1-Dichloroethane	Raw Sew/influent	REPORT RQL = 6	UG/L	24 Hour Composite	January thru December
1,1-Dichloroethylene	Raw Sew/influent	REPORT RQL = 6	UG/L	24 Hour Composite	January thru December
1,1,1-Trichloro-ethane	Raw Sew/influent	REPORT RQL = 6	UG/L	24 Hour Composite	January thru December
1,1,2-Trichloro-ethane	Raw Sew/influent	REPORT RQL = 6	UG/L	24 Hour Composite	January thru December
1,1,2,2-Tetrachloro-ethane	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
1,2-Dichloropropane	Raw Sew/influent	REPORT RQL = 5	UG/L	24 Hour Composite	January thru December
1,2-trans-Dichloro-ethylene	Raw Sew/influent	REPORT RQL = 4	UG/L	24 Hour Composite	January thru December
2-Chloroethyl Vinyl Ether (Mixed)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Vinyl Chloride	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December
Trichloroethylene	Raw Sew/influent	REPORT RQL = 5	UG/L	24 Hour Composite	January thru December
Chloroethane	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December

Surface Water WCR - Annual Reporting Requirements:

Submit an Annual WCR: within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP). Pursuant to N.J.A.C. 7:14A-19.3(c)7i, the influent sample for priority pollutant scan shall be collected to coincide with the effluent and sludge monitoring for priority pollutants.

Table III - B - 1: Surface Water WCR - Annual Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Parachloro-m-cresol	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Phenols	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Delta BHC, Total (ug/l)	Raw Sew/influent	REPORT RQL = 0.02	*****	24 Hour Composite	January thru December
Endosulfan Sulfate	Raw Sew/influent	REPORT RQL = 0.08	UG/L	24 Hour Composite	January thru December
Beta Endosulfan	Raw Sew/influent	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
Alpha Endosulfan	Raw Sew/influent	REPORT RQL = 0.02	UG/L	24 Hour Composite	January thru December
Endrin Aldehyde	Raw Sew/influent	REPORT RQL = 0.1	UG/L	24 Hour Composite	January thru December
PCB-1016 (Arochlor 1016)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
4,4'-DDT(p,p'-DDT)	Raw Sew/influent	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
4,4'-DDD(p,p'-DDD)	Raw Sew/influent	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
4,4'-DDE(p,p'-DDE)	Raw Sew/influent	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
Aldrin	Raw Sew/influent	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
Alpha BHC	Raw Sew/influent	REPORT RQL = 0.02	UG/L	24 Hour Composite	January thru December
Beta BHC	Raw Sew/influent	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
Gamma BHC (lindane),	Raw Sew/influent	REPORT RQL = 0.03	UG/L	24 Hour Composite	January thru December

Surface Water WCR - Annual Reporting Requirements:

Submit an Annual WCR: within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP). Pursuant to N.J.A.C. 7:14A-19.3(c)7i, the influent sample for priority pollutant scan shall be collected to coincide with the effluent and sludge monitoring for priority pollutants.

Table III - B - 1: Surface Water WCR - Annual Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
Chlordane	Raw Sew/influent	REPORT RQL = 0.2	UG/L	24 Hour Composite	January thru December
Dieldrin	Raw Sew/influent	REPORT RQL = 0.03	UG/L	24 Hour Composite	January thru December
Endrin	Raw Sew/influent	REPORT RQL = 0.04	UG/L	24 Hour Composite	January thru December
Toxaphene	Raw Sew/influent	REPORT RQL = 1	UG/L	24 Hour Composite	January thru December
Heptachlor	Raw Sew/influent	REPORT RQL = 0.02	UG/L	24 Hour Composite	January thru December
Heptachlor Epoxide	Raw Sew/influent	REPORT RQL = 0.4	UG/L	24 Hour Composite	January thru December
PCB-1221 (Arochlor 1221)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1232 (Arochlor 1232)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1242 (Arochlor 1242)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1248 (Arochlor 1248)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1254 (Arochlor 1254)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
PCB-1260 (Arochlor 1260)	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
2-Chlorophenol	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
2-Nitrophenol	Raw Sew/influent	REPORT RQL = 18	UG/L	24 Hour Composite	January thru December
2,4-Dichlorophenol	Raw Sew/influent	REPORT RQL = 10	UG/L	24 Hour Composite	January thru December

Surface Water WCR - Annual Reporting Requirements:

Submit an Annual WCR: within twenty-five days after the end of every 12 month monitoring period beginning from the effective date of the permit (EDP). Pursuant to N.J.A.C. 7:14A-19.3(c)7i, the influent sample for priority pollutant scan shall be collected to coincide with the effluent and sludge monitoring for priority pollutants.

Table III - B - 1: Surface Water WCR - Annual Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** **PHASE End Date:**

Parameter	Sample Point	Compliance Quantity	Units	Sample Type	Monitoring Period
2,4-Dimethylphenol	Raw Sew/influent	REPORT RQL = 13.5	UG/L	24 Hour Composite	January thru December
2,4-Dinitrophenol	Raw Sew/influent	REPORT RQL = 40	UG/L	24 Hour Composite	January thru December
2,4,6-Trichloro-phenol	Raw Sew/influent	REPORT RQL = 20	UG/L	24 Hour Composite	January thru December
4-Chlorophenyl phenyl ether	Raw Sew/influent	REPORT RQL = 21	UG/L	24 Hour Composite	January thru December
4-Nitrophenol	Raw Sew/influent	REPORT RQL = 12	UG/L	24 Hour Composite	January thru December
4,6-Dinitro-o-cresol	Raw Sew/influent	REPORT RQL = 60	UG/L	24 Hour Composite	January thru December
Phenol Single Compound	Raw Sew/influent	REPORT	UG/L	24 Hour Composite	January thru December
Pentachlorophenol	Raw Sew/influent	REPORT RQL = 30	UG/L	24 Hour Composite	January thru December

PART IV

SPECIFIC REQUIREMENTS: NARRATIVE

Sanitary Wastewater

A. MONITORING REQUIREMENTS

1. Standard Monitoring Requirements

a. Each analysis required by this permit shall be performed by a New Jersey Certified Laboratory that is certified to perform that analysis.

b. The Permittee shall perform all water/wastewater analyses in accordance with the analytical test procedures specified in 40 CFR 136, unless other test procedures have been approved by the Department in writing or as otherwise specified in the permit.

c. The permittee shall utilize analytical methods that will ensure compliance with the Quantification Levels (QLs) listed in PART III. QLs include, but are not limited to, Recommended Quantification Levels (RQLs) and Method Detection Levels (MDLs). If the permittee and/or contract laboratory determines that the QLs achieved for any pollutant(s) generally will not be as sensitive as the QLs specified in PART III, the permittee must submit a justification of such to the Bureau of Surface Water Permitting. For limited parameters with no QL specified, the sample analysis shall use a detection level at least as sensitive as the effluent limit.

d. All sampling shall be conducted in accordance with the Department's Field Sampling Procedures Manual, or an alternate method approved by the Department in writing.

e. All monitoring shall be conducted as specified in Part III.

f. All sample frequencies expressed in Part III are minimum requirements. Any additional samples taken consistent with the monitoring and reporting requirements contained herein shall be reported on the Monitoring Report Forms.

g. Annual and semi-annual wastewater testing shall be conducted in a different quarter of each year so that tests are conducted in each of the four permit quarters of the permit cycle. Testing may be conducted during any month of the permit quarters.

h. Any influent and effluent sampling for toxic pollutant analyses shall be collected concurrently.

i. Flow shall be measured using a flowmeter.

B. RECORDKEEPING

1. Standard Recordkeeping Requirements

Sanitary Wastewater

a. The permittee shall retain records of all monitoring information, including 1) all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation (if applicable), 2) copies of all reports required by this NJPDES permit, 3) all data used to complete the application for a NJPDES permit, and 4) monitoring information required by the permit related to the permittee's residual use and/or disposal practices, for a period of at least 5 years, or longer as required by N.J.A.C. 7:14A-20, from the date of the sample, measurement, report, application or record.

b. Records of monitoring information shall include 1) the date, locations, and time of sampling or measurements, 2) the individual(s) who performed the sampling or measurements, 3) the date(s) the analyses were performed, 4) the individual(s) who performed the analyses, 5) the analytical techniques or methods used, and 6) the results of such analyses.

C. REPORTING

1. Standard Reporting Requirements

a. The permittee shall submit all required monitoring results to the Department on the forms provided to them. The Monitoring Report Forms (MRFs) may be provided to the permittee in either a paper format or in an electronic file format. Unless otherwise noted, all requirements below pertain to both paper and electronic formats.

b. Any MRFs in paper format shall be submitted to the following addresses:

i. NJDEP
Mail Code - 401-03B
Division of Water Quality
Office of Permit Management
P.O. Box 420
Trenton, New Jersey 08625-0420.

ii. (if requested by the Water Compliance and Enforcement Bureau)
NJDEP: Northern Bureau of Water Compliance and Enforcement
7 Ridgedale Avenue
Cedar Knolls, New Jersey 07927-1112

c. Any electronic data submission shall be in accordance with the guidelines and provisions outlined in the Department's Electronic Data Interchange (EDI) agreement with the permittee. Paper copies must be available for on-site inspection by DEP personnel or provided to the DEP upon written request.

d. All monitoring report forms shall be certified by the highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility.

e. The highest ranking official may delegate responsibility to certify the monitoring report forms in his or her absence. Authorizations for other individuals to sign shall be made in accordance with N.J.A.C. 7:14A-4.9(b).

f. Monitoring results shall be submitted in accordance with the current Discharge Monitoring Report Manual and any updates thereof.

g. If monitoring for a parameter is not required in a monitoring period, the permittee must report "CODE=N" for that parameter.

h. If there are no discharge events during an entire monitoring period, the permittee must notify the Department when submitting the monitoring results. This is accomplished by placing a check mark in the "No Discharge this monitoring period" box on the paper or electronic version of the monitoring report submittal form.

D. SUBMITTALS

1. Standard Submittal Requirements

a. The permittee shall prepare/update the Operation and Maintenance (O&M) Manual including an emergency plan in accordance with requirements of N.J.A.C. 7:14A-6.12(c).

b. Submit a certification that an Operations and Maintenance (O&M) Manual has been prepared: within 90 days from the effective date of the permit (EDP).

c. The permittee shall amend the Operation & Maintenance Manual whenever there is a change in the treatment works design, construction, operations or maintenance which substantially changes the treatment works operations and maintenance procedures.

2. Compliance Schedule Progress Reports

a. In accordance with N.J.A.C. 7:14A-6.4(a), a schedule of compliance has been included for Total Recoverable Arsenic and Copper, including interim deadlines for annual progress reports that outline the progress towards compliance with the conditions of the permit.

i. Submit a Compliance Schedule Progress Report: within 12 months from the effective date of the permit (EDP).

ii. Submit a Compliance Schedule Progress Report: within 24 months from the effective date of the permit (EDP).

iii. Submit a Compliance Schedule Progress Report: within 36 months from the effective date of the permit (EDP).

iv. Submit a Compliance Schedule Progress Report: within 48 months from the effective date of the permit (EDP).

b. The compliance schedule progress report(s) shall be submitted to the following Departmental entities:

i. NJDEP: Division of Water Quality
Mail Code - 401-02B
Bureau of Surface Water Permitting
P.O. Box 420
Trenton, New Jersey 08625-0420.

ii. NJDEP: Northern Bureau of Water Compliance and Enforcement
7 Ridgedale Avenue
Cedar Knolls, New Jersey 07927-1112

3. Polychlorinated Biphenyls (PCB) Monitoring

a. The permittee shall perform sampling for the 209 PCB congeners within 24 months after the effective date of the permit.

i. The permittee shall perform three dry weather and three wet weather samples on the facility's main outfall.

ii. The permittee shall perform three dry weather samples on the facility's main outfall.

iii. The permittee shall perform three dry weather and three wet weather samples on the facility's main outfall.

iv. Dry weather sampling shall be conducted when less than 0.1 inches of rainfall has occurred within the previous 72 hours. (For industrials, add)During dry weather, for industrial facilities, the permittee shall sample the process wastewater outfall.

v. Wet weather sampling shall be performed within 72 hours after the onset of a precipitation event in which at least 0.1 inches of rainfall has occurred. Wet weather conditions are defined as following the onset of a precipitation event of 0.1 inches or greater and an increase in wastewater flow, provided that no rainfall (defined as less than 0.1 inches) has occured within the previous 72 hours. Sampling should start no sooner than two hours prior to the start of the rising hydrograph or no later than 30 minutes after the start of the rising hydrograph for the discharge.

vi. All samples shall be collected at least 30 days after the previous sampling event. No more than two samples (one wet and one dry) shall be collected in each quarter of the year or the same quarter of the following year.

vii. All samples shall be performed during periods which are representative of normal facility operations.

viii. All sampling shall be performed using the most recent version of USEPA Method 1668, Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by HRGC/HRMS, as found at EPA 40 CFR Part 136.

ix. Dry weather samples shall be 24-hour time-weighted composite samples at a frequency of not greater than one aliquot every hour for a nominal sample volume of 2 liters for both the sample and the field replicate.

x. Wet weather samples shall consist of a two liter grab sample collected into a laboratory supplied bottle within 30 minutes of the start of the discharge, sealed and stored at between 0-4 degrees C for shipment. A replicate sample will be collected and treated in the same manner as the sample.

xi. Submit the special report: within 30 months from the effective date of the permit (EDP).

xii. Submit the special report: Select appropriate schedule.

xiii. The Final Report shall be submitted in electronic format on a compact disc in EXCEL format and shall include a summary report.

xiv. Final Reports shall be submitted to: Attn:
Melisse Carasia Auriti
Bureau of Surface Water Permitting
New Jersey Department of Environmental Protection
Mailcode: 401-02B
401 East State Street,
PO Box 420,Trenton, NJ 08625-0420.

b. Frequency Reduction, Suspension, Elimination of Monitoring

i. If sampling demonstrates non-detectable levels in the effluent, the permittee may request a frequency reduction of the monitoring.

ii. If the Department determines that a PMP will be necessary for its facility, the permittee may contact the Department about the possibility of eliminating the sampling described above.

c. PCB Pollutant Minimization Plan (PMP) Requirement

i. If, based on the review of the Final Report, the Department determines that a PMP is required, the permittee shall prepare and submit a PMP to the Department by the date specified in the Department's determination letter.

ii. The permittee shall implement the PMP within 30 days after written notification by the Department that the PMP is complete.

iii. The PMP shall be developed to achieve maximum practical reduction in accordance with the PMP Technical Manual.

d. PCB PMP Annual Report Requirement

i. The permittee shall submit an annual report in accordance with the Annual Report Guidance Document every 12 months from the implementation of the PMP.

ii. Any revisions to the PMP as a result of the ongoing work shall be reported in the annual report.

iii. The annual report shall contain, at a minimum, a detailed discussion of the specific progress and actions taken by the permittee during the previous twelve month period that addresses PCB loadings and implementation of the PMP.

E. FACILITY MANAGEMENT

1. Discharge Requirements

a. The permittee shall discharge at the location(s) specified in PART III of this permit.

b. The permittee shall not discharge foam or cause foaming of the receiving water that 1) forms objectionable deposits on the receiving water, 2) forms floating masses producing a nuisance, or 3) interferes with a designated use of the waterbody.

c. The permittee's discharge shall not produce objectionable color or odor in the receiving stream.

d. The discharge shall not exhibit a visible sheen.

e. When quantification levels (QL) and effluent limits are both specified for a given parameter in Part III, and the QL is less stringent than the effluent limit, effluent compliance will be determined by comparing the reported value against the QL.

f. When an average of three (3) consecutive rolling monthly average values of the committed flow (actual flow and approved allocated flow) reaches or exceeds 80% of 94 MGD (the permitted capacity of the facility), the permittee shall:.

i. Develop a Capacity Assurance Program (CAP) in accordance with N.J.A.C. 7:14A-22.16.

ii. For more information concerning the CAP, please contact the Bureau of Engineering and Construction Permitting North at (609) 292-6894.

iii. Contact the Division of Watershed Management to discuss whether an amendment to the Water Quality Management Plan (WQMP) or Wastewater Management Plan (WMP) will be necessary.

2. Applicability of Discharge Limitations and Effective Dates

a. Surface Water Discharge Monitoring Report (DMR) Form Requirements

i. This permit includes multiple phases for DSN 001A.
The Initial limitation and monitoring conditions are effective from the effective date of the permit (EDP) until EDP + 59 months. Final limitation and monitoring conditions become effective on EDP + 59 months.

b. Wastewater Characterization Report (WCR) Form Requirements

i. The final effluent monitoring conditions contained in PART III for DSN 001A apply for the full term of this permit action.

3. Operation, Maintenance and Emergency conditions

a. The permittee shall operate and maintain treatment works and facilities which are installed or used by the permittee to achieve compliance with the terms and conditions of this permit as specified in the Operation & Maintenance Manual.

b. The permittee shall develop emergency procedures to ensure effective operation of the treatment works under emergency conditions in accordance with N.J.A.C. 7:14A-6.12(d).

4. Toxicity Testing Requirements - Chronic Whole Effluent Toxicity

a. The permittee shall conduct toxicity tests on its wastewater discharge in accordance with the provisions in this section. Such testing will determine if appropriately selected effluent concentrations adversely affect the test species.

b. Chronic toxicity tests shall be conducted using the test species and method identified in Part III of this permit.

c. Any test that does not meet the specifications contained in the Department's "Chronic Toxicity Testing Specifications for Use in the NJPDES Program" document must be repeated within 30 days of the completion of the initial test. The repeat test shall not replace subsequent testing required in Part III.

d. The permittee shall collect and analyze the concentration of ammonia-N in the effluent on the day a sample is collected for WET testing. This result is to be reported on the Biomonitoring Report Form.

e. IC25 - Inhibition Concentration - Concentration of effluent which has an inhibitory effect on 25% of the test organisms for the monitored effect, as compared to the control (expressed as percent effluent).

f. Test results shall be expressed as the IC25 for each test endpoint. Where a chronic toxicity testing endpoint yields IC25's from more than one test endpoint, the most sensitive endpoint will be used to evaluate effluent toxicity.

g. The permittee shall resubmit a Chronic Methodology Questionnaire within 60 days of any change in laboratory.

h. Submit a Chronic Methodology Questionnaire: within 60 days from the effective date of the permit (EDP). The permittee shall resubmit after any change of laboratory occurs.

i. Submit a chronic whole effluent toxicity test report: within twenty-five days after the end of every quarterly monitoring period beginning from the effective date of the permit (EDP). The permittee shall submit toxicity test results on appropriate forms.

j. Test reports shall be submitted to:

i. New Jersey Department of Environmental Protection
401-02B
Division of Water Quality
Bureau of Surface Water Permitting
401 East State Street
P.O. Box 420
Trenton, New Jersey 08625-0420.

5. Introduction to RWBR Requirements

a. The following RWBR sections contain the conditions for the permittee to beneficially reuse treated effluent or Reclaimed Water for Beneficial Reuse (RWBR), provided the effluent is in compliance with the criteria specified for the particular use specified below.

b. There are two levels of RWBR uses. Public Access and Restricted Access.

6. Inactive RWBR Requirements

a. The following RWBR sections are included in this permit for various reuse applications. These sections are inactive and not effective unless the status column in Appendix B states the reuse activity is approved. Any specific RWBR type not approved in the Appendix, may be approved at a later date by a minor modification permit action once the appropriate submittal requirements have been received and approved by the Department.

7. RWBR Requirements for Public Access

a. The Public Access reuse types authorized by this permit are those approved in Appendix B. Other Public Access reuse types may be added by minor modification of this permit.

b. The hydraulic loading rate for land application of RWBR shall not exceed 2 inches per week.

c. Any water diverted for RWBR shall be monitored and comply with the high level treatment requirements listed below and the operational requirements in the approved Operations Protocol. If any of these requirements are not achieved, the effluent shall not be diverted for RWBR.

i. Total Suspended Solids (TSS): Instantaneous maximum of 5.0 mg/L prior to disinfection.

ii. Nitrogen, Total (NO3 + NH3): Daily maximum of 10.0 mg/L. This requirement only applies when RWBR is land applied.

iii. Fecal Coliform: 7-day median maximum of 2.2 colonies per 100 mL and an instantaneous maximum of 14 colonies per 100 mL.

iv. Chlorine Produced Oxidants (CPO): If the permittee disinfects utilizing chlorine, an instantaneous minimum of 1.0 mg/L after fifteen minutes contact time at peak hourly flow must be met.

v. Ultraviolet Disinfection: If the permittee disinfects utilizing UV disinfection, a minimum design UV dose of 100 mJ/cm2 under maximum daily flow must be used. All aspects of the UV system must meet the requirements of the May 2003 (or most recent) National Water Research Institute's Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse, second edition.

vi. Turbidity for UV systems: Instantaneous maximum of 2.0 NTU.

d. Monitoring of the diverted public access RWBR shall be conducted in the following manner:

i. Sampling for TSS shall be immediately prior to disinfection. Monitoring for TSS shall be a grab sample once per week.

ii. Sampling for Turbidity in systems shall be sampled immediately prior to disinfection. The permittee shall establish a correlation between Turbidity and TSS in their effluent as detailed in the Reuse Technical Manual. A statistically significant correlation between Turbidity and TSS shall be established prior to commencement of the RWBR program and shall be incorporated into the Operations Protocol and updated annually. The initial correlation should be done as part of a daily monitoring program for at least 30 days. To ensure continuous compliance with the 5.0 mg/L TSS level, Turbidity must be monitored continuously and achieve the level established in the Operations Protocol.

iii. For chlorine disinfection, monitoring for CPO shall be continuous and shall be monitored after the appropriate contact time is achieved.

iv. For UV systems, UV lamp intensity, UV transmittance and UV flow rate shall be monitored continuously after full disinfection treatment.

v. Monitoring for Fecal Coliform shall be a grab sample, taken in accordance with Part III, at least a minimum of once per week taken immediately after disinfection. Fecal coliform shall be monitored immediately after disinfection.

vi. Monitoring for Total Nitrogen (NO3 + NH3) shall be a composite sample, taken in accordance with Part III, at least once per week taken prior to RWBR diversion. Total Nitrogen (NO3 + NH3) shall be monitored after the appropriate disinfection treatment is achieved.

e. All monitoring results of the RWBR shall be reported each month on Wastewater Characterization Reports (WCR). Unless noted otherwise, the highest of all measured values for diverted RWBR shall be reported.

i. If chlorine is used for disinfection, the lowest sampling result obtained during the reporting month shall be reported for CPO.

ii. If ultraviolet disinfection is used, the lowest sampling results obtained during the reporting month shall be reported for lamp intensity and UV transmittance.

8. RWBR Requirements for Restricted Access--Land Application and Non Edible Crops

a. The Restricted Access--Land Application and Non Edible Crops reuse types authorized by this permit are those approved in Appendix B. Other Restricted Access--Land Application and Non Edible Crops reuse types may be added by minor modification of this permit.

b. The hydraulic loading rate for land application of RWBR shall not exceed 2 inches per week.

c. Any water diverted for RWBR shall be monitored and comply with the high level treatment requirements listed below and the operational requirements in the approved Operations Protocol. If any of these requirements are not achieved, the effluent shall not be diverted for RWBR.

d. Nitrogen, Total (NO3 + NH3): Daily maximum of 10 mg/L. Frequency of sampling for Total Nitrogen shall be in accordance with Part III of this permit. The sample shall be collected as a composite sample taken prior to diversion for RWBR. Nitrogen, Total (NO3 + NH3) shall be monitored after the appropriate disinfection treatment time is achieved. This requirement only applies when RWBR is land applied, however, this requirement does not apply to spray irrigation within a fenced perimeter or otherwise restricted area.

e. Fecal Coliform: 200 colonies per 100 ml monthly average Geometric Mean, 400 colonies per 100 ml maximum in any one sample. Frequency of sampling for Fecal Coliform shall be in accordance with Part III of this permit. The sample shall be collected as a grab sample taken immediately after disinfection.

f. Chlorine Produced Oxidants (CPO): For chlorine disinfection, instantaneous minimum of 1.0 mg/L after fifteen minutes contact time at peak hourly flow. Frequency of sampling for CPO shall be in accordance with Part III of this permit. The sample shall be collected as a grab sample taken immediately after disinfection. The value reported for CPO shall be the minimum sampling result obtained during the reporting month for diverted RWBR. Chlorine Produced Oxidants (CPO) shall be monitored after the appropriate contact time is achieved.

g. Ultraviolet Disinfection: For UV disinfection, a minimum design UV dose of 75 mJ/cm2 under maximum daily flow must be used. This dose must also be based on continuous monitoring of UV lamp intensity, UV transmittance and UV flow rate. All aspects of the UV system must meet the requirements of the May 2003 (or most recent) National Water Research Institute's Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse, second edition. UV lamp intensity, UV transmittance and UV flow rate shall be monitored continuously after full disinfection treatment.

h. All monitoring results of the RWBR shall be reported each month on Wastewater Characterization Reports (WCR). Unless noted otherwise, the highest of all measured values for diverted RWBR shall be reported.

9. RWBR Requirements for Restricted Access--Construction and Maintenance Operations

a. The Restricted Access--Construction and Maintenance Operations reuse types authorized by this permit are those approved in Appendix B. Other Restricted Access--Construction and Maintenance Operations reuse types may be added by minor modification of this permit.

b. Fecal Coliform: 200 colonies per 100 ml monthly average Geometric Mean, 400 colonies per 100 ml maximum in any one sample. Frequency of sampling for Fecal Coliform shall be in accordance with Part III of this permit. Fecal coliform shall be monitored immediately after disinfection. This requirement does not apply to sanitary sewer jetting.

10. RWBR Requirements for Restricted Access--Industrial Systems

a. The Restricted Access--Industrial Systems reuse types authorized by this permit are those approved in Appendix B. Other Restricted Access--Industrial Systems reuse types may be added by minor modification of this permit.

11. RWBR Submittal Requirements

a. For all types of RWBR, with the exception of sanitary sewer jetting and STP washdown water, the permittee shall submit and receive approval of an Operations Protocol or modify the existing Operations Protocol as detailed in the most recent version of the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse" (Reuse Technical Manual) prior to the commencement of any RWBR activity. A copy of the approved Operations Protocol shall be maintained onsite. Specific requirements for the Operations Protocol are identified in the Reuse Technical Manual.

b. The permittee shall submit a copy of the Reuse Supplier and User Agreement with each request for authorization to distribute RWBR in which the user is a different entity than the supplier. Specific requirements for the Reuse Supplier and User Agreement are identified in the Reuse Technical Manual.

c. For Public Access RWBR on Edible Crops, the permittee shall submit an annual inventory of edible crop irrigation with the Beneficial Reuse Annual Report. Specific requirements for the annual inventory are identified in the Reuse Technical Manual.

d. Submit a Beneficial Reuse Annual Report: by February 1 of each year beginning from the effective date of the permit (EDP). The permittee shall compile the total volume of RWBR distributed to each type of authorized RWBR activity for the previous calendar year. Specific requirements for the Annual Reuse Report are identified in the Reuse Technical Manual.

e. The permittee shall submit and receive approval of an Engineering Report in support of RWBR authorization requests for new or expanded RWBR projects as detailed in the most recent version of the Department's "Technical Manual for Reclaimed Water for Beneficial Reuse" (Reuse Technical Manual) prior to the commencement of this/these type/s of RWBR activity. A copy of the approved Engineering Report shall be maintained onsite. Specific requirements for the Engineering Report are identified in the Reuse Technical Manual.

f. All submittals shall be mailed or delivered to: New Jersey Department of Environmental Protection, Division of Water Quality, Bureau of Surface Water Permitting, Mail Code 401 - 02B, P.O. Box 420, Trenton, New Jersey 08625.

12. RWBR Operational Requirements

a. Effluent that does not meet the requirements for RWBR established in Part III, Part IV and the operational requirements specified in the facility's approved Operations Protocol shall not be diverted for RWBR.

b. The land application of RWBR shall not produce surface runoff or ponding.

c. All setback distances shall be consistent with the distances outlined in the Reuse Technical Manual.

d. Land application sites shall not be frozen or saturated when applying RWBR.

e. A daily log noting the volume of RWBR distributed to each approved application site shall be maintained on-site by the permittee and made available to the Department upon request. The volume of RWBR to be distributed shall be determined through the use of a totalizing flow meter, or other means of accurate flow measurement.

f. Any vehicle used to transport and/or distribute RWBR shall be appropriately marked. The vehicle shall not be used to transport water or other fluid that does not meet all limitations and requirements as specified in this permit for water diverted for RWBR, unless the tank has been emptied and adequately cleaned prior to the addition of the RWBR.

g. The permittee shall post Access Control and Advisory Signs in accordance with the requirements of the Reuse Technical Manual.

h. There shall be no cross-connections to potable water systems.

i. All RWBR piping, pipelines, valves, and outlets shall be appropriately color coded, tagged or labeled to warn the public and employees that the water is not intended for drinking. Worker contact with RWBR shall be minimized.

j. The issuance of this permit for the use of RWBR shall not be considered as a waiver of any applicable federal, state or local rule, regulation or ordinance.

F. INDUSTRIAL PRETREATMENT PROGRAM REQUIREMENTS

1. General Requirements

a. The Permittee has developed an industrial pretreatment program pursuant to the General Pretreatment Regulations 40 CFR Part 403 and N.J.A.C. 7:14A-1 et seq. The Permittee shall implement and enforce its approved pretreatment program to prevent the introduction of pollutants into its system which would:

i. interfere with attainment of the effluent limitations contained in the permittee's NJPDES permit;

ii. pass through the treatment works and impair the water quality of the receiving stream; or

iii. affect sludge quality so as to interfere with the use or management of the municipal sludge.

b. The Permittee shall comply with the public participation and notification requirements, including but not limited to, those specified in N.J.A.C. 7:14A-19.10, and 40 CFR Part 25.

c. The Permittee shall secure and maintain sufficient resources and qualified personnel to carry out the program implementation procedures described in this permit.

2. Identify and Locate Industrial Users

a. The Permittee shall update its inventory of indirect users at a frequency and diligence adequate to ensure proper identification of indirect users subject to pretreatment standards, appropriate characterization of the nature of their discharges, and correct designation of indirect users as categorical, significant/major, or other regulated. At a minimum, this inventory shall be updated annually and shall be included in the Pretreatment Program 40 CFR Part 403 Annual Report.

b. The Permittee shall notify an indirect user of pretreatment standards and requirements within thirty (30) days of the determination of the indirect user being subject to regulation under the pretreatment program.

3. Program Modifications

a. The Permittee shall notify the Bureau of Pretreatment and Residuals (BPR) of all substantial industrial pretreatment program (IPP) modifications, as defined under 40 CFR 403.18(b), and comply with the program modification requirements under N.J.A.C. 7:14A-19.9. The Permittee must await formal approval from the BPR before implementing substantial program modifications.

b. For non-substantial program modifications, the Permittee shall provide to the BPR the information required under N.J.A.C. 7:14A-19.9(b). The Permittee, as required by 40 CFR 403.18(d)(1), must submit this information to the BPR at least 45 days prior to implementation. Modifications that are not considered substantial are deemed approved unless the Department notifies the Permittee within 45 days that the modifications are not approved.

4. Develop Local Limits

a. The Permittee has developed and shall enforce local limits as required by N.J.A.C. 7:14A-19.7.

b. The Permittee shall submit a written technical evaluation of the need to revise local limits as required under N.J.A.C. 7:14A-19.7(f).

c. The written technical evalulation required in b. above shall be submitted: within 6 months from the effective date of the permit (EDP).

5. Issue IPP Permits

a. The Permittee must issue an individual IPP Permit to those facilities which are classified as "Industrial Users" (IUs) as defined in the Bergen County Utilities Authority's Rules and Regulations.

b. These individual IPP Permits must contain the minimum requirements as specified under N.J.A.C. 7:14A-19.8(b).

c. The Permittee shall issue a draft IPP Permit to a newly identified (i.e. currently discharging) industrial user within 180 days of identifying that IU.

i. New industrial users shall receive an IPP Permit prior to commencement of discharge.

ii. The Permittee shall issue or reissue the IPP Permits, in absence of litigation and/or enforcement action(s) initiated by the Permittee, within one hundred and eighty (180) days of the expiration date of the IPP Permit previously issued to an existing industrial user.

6. Perform Compliance Monitoring and Inspections

a. The Permittee shall randomly inspect indirect users and randomly sample and analyze indirect user effluents at a frequency commensurate with the character, consistency, and volume of the contribution. However, the frequency of sampling shall be adequate to determine the compliance status of the indirect user exclusive of self-monitoring data submitted by the user. Specifically, the frequency of inspection and sampling of all significant industrial users (SIUs), as defined by Bergen County Utilities Authority's Rules and Regulations, shall be no less than twice per year for inspection and no less than twice per year for sampling. Also, in accordance with N.J.A.C. 7:14A-19.6(a)1, facilities which have an IPP permit from the POTW but do not meet the POTW's definition of SIU and are not CIUs, must be inspected by the POTW once per year and must be sampled by the POTW at least once every three (3) years.

b. Sample collection and analysis and the gathering of other compliance data shall be performed with sufficient care to produce evidence admissible in judicial enforcement proceedings.

7. Take Enforcement Actions

a. The permittee shall take enforcement actions based upon indirect users' noncompliance in accordance with its approved enforcement response plan.

8. Perform Data Management and Record Keeping

a. The Permittee shall develop and maintain a data management system which includes industrial user inventory, characterization of discharge, compliance status, IPP permit status, and enforcement actions.

b. The Permittee shall retain for a minimum of five (5) years all records of monitoring activities and results (whether or not such activities are required by this permit) and shall make such records available to EPA and the State upon request.

9. Notification Requirements

a. The Permittee shall notify its significant industrial users in writing of their obligation to comply with applicable requirements under Subtitles C and D of the Resource Conservation and Recovery Act (RCRA).

10. Pretreatment Annual Report

a. The Permittee shall submit a report annually to the Bureau of Pretreatment and Residuals describing the Permittee's pretreatment activities for the twelve (12) month period from April through March. In the event that the Permittee is not in compliance with any conditions or requirements of this permit, the Permittee shall also include the reason for noncompliance and state how and when the Permittee shall comply with such conditions and requirements.

b. Submit the Annual Pretreatment Program Report: by May 1 of each year beginning from the effective date of the permit (EDP).

i. a summary of analytical results of the priority pollutant scans performed on the Delegated Local Agency's (DLA) influent, effluent, and sludge;

ii. a discussion of upset, interference, or pass through incidents, if any, at the DLA treatment plant(s) which the Permittee knows or suspects were caused by indirect users of the DLA system. The discussion shall include the reasons why the incidents occurred, the corrective actions taken, and, if known, the name and address of the indirect user(s) responsible;

iii. an updated list of the Permittee's industrial users including their names and addresses, and a list of deletions and additions. The Permittee shall provide a brief explanation for each deletion. The list shall identify the industrial users subject to Federal categorical standards and which set(s) of standards are applicable; significant/major non-categorical IUs (as defined by the DLA); and other regulated non-categorical industries. The Permittee shall characterize the compliance status of each industrial user with respect to the discharge limitations and reporting requirements;

iv. a summary of the inspection and sampling activities conducted by the Permittee during the period covered by the annual report to gather information and data regarding industrial users;

v. a summary of the compliance and enforcement activities during the period covered by the annual report. The summary shall include administrative and legal/judicial actions initiated by the permittee during the period noted;

vi. a description of any significant changes in operating the pretreatment program which differ from the information in the Permittee's approved DLA pretreatment program including, but not limited to, changes concerning:
(1) the program's administrative structure
(2) local industrial discharge limitations
(3) monitoring program or monitoring frequencies
(4) Legal authority or enforcement policy
(5) funding mechanisms
(6) resource requirements
(7) staffing levels;

vii. a summary of the annual pretreatment funding, including salaries (as a lump sum), analytical costs for both in-house and contract analyses, equipment costs, and other expenditures associates with implementation of the pretreatment program. The Permittee must also provide a manpower estimate in full-time equivalents (FTEs);

viii. a summary of public participation activities to involve and inform the public. This shall include a copy of the annual publication of significant non-compliance, if such publication was needed to comply with N.J.A.C. 7:14A-19.10(b); and

ix. other information as required and described in the NJDEP 403 Annual Report Guidance.

x. Two copies of the Pretreatment Program Annual Report shall be submitted to the BPR in the form prescribed in that guidance. The reports shall be submitted to:
NJDEP, Mail Code - 401-02B
Bureau of Pretreatment and Residuals
401 E. State Street
P.O. Box 420
Trenton, N.J. 08625-0420.

11. CWEA Annual Report

a. The Permittee must submit information required by N.J.A.C. 7:14A-19.6(c), (d) and (e) pertaining to the implementation of the DLA's approved pretreatment program.

b. Submit the CWEA Annual Report: by February 1 of each year beginning from the effective date of the permit (EDP).

c. Two copies of this report shall be submitted to:
NJDEP, Mail Code 401-02B, Bureau of Pretreatment and Residuals
401 E. State Street
P.O. Box 420
Trenton, N.J. 08625-0420.

12. Grace Period Annual Report

a. The permittee must submit the information required by N.J.A.C. 7:14A-19.6(h) and (i) pertaining to implementation of the DLA's approved pretreatment program.

b. Submit the Grace Period Annual Report: by March 1 of each year beginning from the effective date of the permit (EDP).

c. Two copies of this report shall be submitted to:
NJDEP, Mail Code 401-02B, Bureau of Pretreatment and Residuals
401 E. State Street
P.O. Box 420
Trenton, N.J. 08625-0420.

G. CONDITIONS FOR MODIFICATION

1. Notification requirements

a. The permittee may request a minor modification for a reduction in monitoring frequency for a non-limited parameter when four consecutive test results of "not detected" have occurred using the specified QL.

2. Causes for modification

a. The Department may modify or revoke and reissue any permit to incorporate 1) any applicable effluent standard or any effluent limitation, including any effluent standards or effluent limitations to control the discharge of toxic pollutants or pollutant parameters such as acute or chronic whole effluent toxicity and chemical specific toxic parameters, 2) toxicity reduction requirements, or 3) the implementation of a TMDL or watershed management plan adopted in accordance with N.J.A.C. 7:15-7.

b. The permittee may request a minor modification to eliminate the monitoring requirements associated with a discharge authorized by this permit when the discharge ceases due to changes at the facility.

3. Removal or Modification of Final WQBELs or Criteria End-of-Pipe Effluent Limitations for Chemical Specific Toxic Pollutants

a. The Department will consider proposing to remove or modify a toxic pollutant's newly imposed final effluent limitation from the permit if any or all of the information in item "b" below is submitted for Departmental review and consideration.

b. Items that will be considered include, but are not limited to:

i. Submission of additional effluent data (minimum of 2.5 consecutive years of monthly data) using an approved quantification level equal to or better than the Department's Recommended Quantification Level (RQL).

ii. Acceptable site-specific ambient data (e.g. hardness, pollutant specific data) collected in accordance with a NJDEP approved work plan.

iii. Acceptable site-specific translator values developed in accordance with a NJDEP approved work plan.

iv. Acceptable site-specific criteria developed in accordance with a NJDEP approved work plan.

v. Updated 1Q10, 7Q10, 75th percentile, and/or other appropriate stream flow values where applicable.

vi. Updated regulatory mixing zone dilution factors where applicable.

c. All studies require a NJDEP approved workplan that shall be submitted to the Department for approval on or before the effective date of the permit (EDP) + 6 months.

i. It is recommended that all ambient monitoring associated with the establishment of hardness values, pollutant concentrations, and site specific translator values be conducted under the confines of a single work plan.

d. All final study reports and/or additional information shall be submitted to the Department on or before EDP + 36 months.

e. The Department will review all submitted information and will either propose a permit action to remove/modify the final effluent limitation(s) or deny the modification request.

NOTES AND DEFINITIONS

Combined Sewer Management

A. NOTES

1. These notes are specific to this permit.

a. The permit conditions in the CSO section apply only to the combined sewer system and related discharges.

2. CSO related resources are listed below with a link to the current webpage.

a. NJDEP's CSO main website and related links can be found at http://www.nj.gov/dep/dwq/cso.htm.
b. EPA's Combined Sewer Overflows Principal Guidance Documents can be found at http://cfpub.epa.gov/npdes/cso/guidedocs.cfm.
c. The Nine Minimum Control requirements from the National CSO Policy along with EPA's guidance document can be found at N.J.A.C. 7:14A-11.12-Appendix C and http://cfpub.epa.gov/npdes/cso/ninecontrols.cfm?program_id=5.
d. The Nine elements of a Long Term Control Plan from the National CSO Policy along with EPA's guidance document can be found at N.J.A.C. 7:14A-11.12-Appendix C and http://cfpub.epa.gov/npdes/cso/ltplan.cfm.
e. EPA's Post Construction Compliance Monitoring Guidance document can be found at http://www.epa.gov/npdes/pubs/final_cso_pccm_guidance.pdf.
f. EPA's Guidance: Coordinating Combined Sewer Overflow (CSO) Long-Term Planning with Water Quality Standards Reviews (PDF).
g. EPA's Capacity, management, operation and maintenance (CMOM) guidance document can be found at http://www.epa.gov/npdes/pubs/cmom_5.pdf.
h. Dry-Weather Deposition and Flushing for Combined Sewer Overflow Pollution Control: http://nepis.epa.gov/EPA/html/DLwait.htm?url=/Exe/ZyPDF.cgi?Dockey=30000821.PDF.
i. Combined sewer overflow control (manual): http://nepis.epa.gov/EPA/html/DLwait.htm?url=/Exe/ZyPDF.cgi?Dockey=30004MAO.PDF.
j. EPA's Storm Water and Combined Sewer Overflows Publications can be found at http://water.epa.gov/polwaste/wastewater/StormwaterPubs.cfm.

B. DEFINITIONS

1. These definitions are specific only to this permit.

a. "Dry weather overflow (DWO)" means a combined sewer overflow that cannot be attributed to a precipitation event, including snow melt, within the hydraulically connected system. DWOs can include flows from one or more of the following: domestic sewage, ground water infiltration, commercial and industrial wastewaters, and

any other non-precipitation event related flows (e.g., discharge of tidal infiltration and/or any connections downstream of the regulator to the outfall pipe).

b. "Green Infrastructure" means methods of stormwater management that reduce wet weather/stormwater volume, flow, or changes the characteristics of the flow into combined or separate sanitary or storm sewers, or surface waters, by allowing the stormwater to infiltrate, to be treated by vegetation or by soils; or to be stored for reuse. Green infrastructure includes, but is not limited to, pervious paving, bioretention basins, vegetated swales, and cisterns.

c. "Hydraulically connected system" means the entire collection system that conveys flows to one Sewage Treatment Plant (STP). On a case-by-case basis, the permittee, in consultation with the Department, may segment a larger hydraulically connected system into a series of smaller inter-connected systems, based upon the specific nature of the sewer system layout, pump stations, gradients, locations of CSOs and other physical features which support such a sub area. A hydraulically connected system could include multiple municipalities, comprised of both combined and separate sewers.

C. NINE MINIMUM CONTROL REQUIREMENTS

1. **Proper operation and regular maintenance programs for the sewer system and the CSOs.**
2. **Maximum use of the collection system for storage.**
3. **Review and modification of pretreatment requirements to assure CSO impacts are minimized.**
4. **Maximization of flow to the POTW for treatment.**
5. **Prohibition of CSOs during dry weather.**
6. **Control of solid and floatable materials in CSOs.**
7. **Pollution prevention.**
8. **Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts.**
9. **Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.**

D. NINE ELEMENTS OF THE LONG TERM CONTROL PLAN

1. **Characterization, Monitoring, and Modeling of the Combined Sewer Systems.**
2. **Public Participation.**
3. **Consideration of Sensitive Areas.**

4. **Evaluation of Alternatives.**
5. **Cost/Performance Considerations.**
6. **Operational Plan.**
7. **Maximizing Treatment at the Existing POTW Treatment Plant.**
8. **Implementation Schedule.**
9. **Post-Construction Compliance Monitoring Program.**

SPECIFIC REQUIREMENTS: NARRATIVE

Combined Sewer Management

A. MONITORING REQUIREMENTS

1. CSO Monitoring Requirements

a. All monitoring shall be conducted as specified in Part III.

b. All monitoring frequencies expressed in Part III are minimum requirements. Any additional samples taken consistent with the monitoring and reporting requirements contained herein shall be reported on the Monitoring Report Forms.

c. Discharges shall be directly monitored or predicted using a DEP approved up-to-date model.

B. RECORDKEEPING

1. CSO Recordkeeping Requirements

a. The permittee shall retain records of all monitoring information, including 1) all calibration and any other methods of monitoring which may be employed, maintenance records and all original strip chart recordings for continuous monitoring instrumentation (if applicable), 2) copies of all reports required by this NJPDES permit, 3) all data used to complete the application for a NJPDES permit, and 4) monitoring information required by the permit related to the permittee's residual use and/or disposal practices, for a period of at least 5 years, or longer as required by N.J.A.C. 7:14A-20, from the date of the sample, measurement, report, application or record.

b. Records of monitoring information shall include 1) the date, locations, and time of sampling or measurements, 2) the individual(s) who performed the sampling or measurements, 3) the date(s) the analyses were performed, 4) the individual(s) who performed the analyses, 5) the analytical techniques or methods used, and 6) the results of such analyses.

c. The permittee shall retain records to document implementation of the Nine Minimum Controls (NMC) and Long Term Control Plan (LTCP) requirements in Sections F. and G., and shall utilize this information when preparing and submitting progress reports required in Section D, including residential complaints, inspection records, maintenance records. This information shall be made available to the Department upon request.

C. REPORTING

1. CSO Reporting Requirements

a. Since the permittee does not own/operate any CSO outfalls, there are no monitoring report requirements at this time.

D. SUBMITTALS

1. CSO Submittal Requirements

a. The permittee shall correct all deficiencies cited by the Department and submit a revised approvable document within 30 days of notification of the deficiencies by the Department.

b. All reports submitted to the Department pursuant to the requirements of this permit shall comply with the signatory requirements of N.J.A.C. 7:14A-4.9., and contain the following certification.

i. "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for purposely, knowingly, recklessly, or negligently submitting false information."

c. Since multiple municipalities/permittees own separate portions of the hydraulically connected sewer system, the permittee shall work cooperatively with all other appropriate municipalities/permittees in the hydraulically connected sewer system to ensure that the NMC & LTCP activities are being developed and implemented consistently. The permittee shall identify their joint and separate responsibilities with all other appropriate municipalities/permittees in the hydraulically connected sewer system regarding implementation of the NMCs and LTCPs. BCUA has formed the BCUA CSO Group and should continue to work with the members of the group for future studies and submittals.

The permittee shall summarize its CSO construction related activities, as well as those reported to them by the other permittees in their service communities, and notify all parties of any construction related activities in the hydraulically connected collection system on a quarterly basis. The permittee shall make these construction related activities available publically on their website.

d. The permittee shall submit all information required by or related to this permit via email or other electronic format acceptable to the Department to NJCSOProgram@dep.state.nj.us and to the permittee's enforcement inspector. The Department cannot accept any file larger than 20 megabytes (MB). Any submission larger than that must be broken into files less than 20MB and sent separately.

2. Updated Nine Minimum Controls Submittal Requirements

a. The permittee shall submit a PDF of a sewer map depicting the actual locations of the separate and combined sanitary sewers and storm sewers, owned/operated by the permittee: on or before EDP + 4 months. This map shall identify flow direction and manhole invert elevations.

3. Long Term Control Plan (LTCP) Submittal Requirements

a. The Department encourages a single LTCP to be developed and submitted on behalf of all of the permittees in a hydraulically connected sewer system.

b. The permittee shall develop an approvable LTCP that will include the elements contained in Section G. The LTCP shall consist of the following steps and be submitted according to the schedule below.

i. Step 1a – System Characterization Workplan for the LTCP - In accordance with Section G.1., the permittee shall submit an approvable system characterization workplan: on or before EDP + 3 months.

ii. Step 1b - In accordance with G.1., G.2. and G.3., the permittee shall submit the System Characterization Report, the Public Participation Process, and Consideration of Sensitive Areas of the LTCP: on or before EDP + 12 months.

iii. Step 2 - Development and Evaluation of Alternatives for the LTCP - In accordance with Sections G.2. through G.5. and G.9., the permittee shall submit an approvable Development and Evaluation of Alternatives Report on or before EDP + 24 months.

iv. Step 3 - Selection and Implementation of the LTCP: In accordance with Sections G.2. and G.6. through G.9., the permittee shall submit an approvable Selection and Implementation of Alternatives Report: on or before EDP + 36 months.

v. Upon Department approval of the LTCP, the permittee shall begin implementation of the LTCP in accordance with the schedule contained therein.

c. In accordance with Section G.9., the permittee shall submit an approvable baseline Compliance Monitoring Program (CMP) work plan: on or before EDP + 3 months.

d. In accordance with Section G.9. and the approved work plan, the permittee shall submit an approvable baseline CMP Report and data: on or before EDP + 12 months.

4. CSO Progress Report Submittal Requirements

a. The permittee shall submit Progress Reports: within twenty-five (25) days after the end of every quarter beginning from the effective date of the permit (EDP).

b. The Progress Reports shall be prepared in accordance with the following requirements.

i. The Progress Reports shall follow the outline structure of the permit requirements in Sections F. and G.

ii. The Progress Reports shall include a summary of all required information, CSO control measures implemented by the permittee to comply with the NMCs, a prioritized schedule for additional CSO control measures to be implemented, and the effectiveness of the implemented CSO control measures, pursuant to this permit for the previous calendar quarter. The first Progress Report shall include a summary of all CSO control measures implemented to date and the effectiveness of those control measures.

iii. Each Progress Report must include a verification that the Operation and Maintenance Manual, including the SOPs, Asset Management Plan and Emergency Plan, have been updated in accordance with this permit and amended annually, as necessary.

iv. Each Progress Report shall contain a detailed discussion of, and document compliance with, the continued implementation of the NMCs and the manner in which all owners/operators of the hydraulically connected collection system participated in the development of the LTCP, including information regarding the development and status of the telephone hotline/website pursuant to Section F.8.

v. Upon Departmental approval of the LTCP, the permittee shall begin implementation of the CSO control measures in accordance with the schedule in the approved LTCP.

E. FACILITY MANAGEMENT

1. CSO Discharge Requirements

a. Since the permittee does not own/operate any CSO outfalls, there are no discharge requirements at this time.

2. Interstate Environmental Commission (IEC)

a. The permittee shall comply with the Interstate Environmental Commission's (IEC) "Water Quality Regulations."

F. NINE MINIMUM CONTROL REQUIREMENTS

1. Proper Operation and Regular Maintenance Program Requirements

a. The permittee shall continue to implement and update annually, an Operations & Maintenance (O&M) Program and corresponding Manual, including an Emergency Plan, in accordance with N.J.A.C. 7:14A-6.12, to ensure that the treatment works, including but not limited to collection system, and related appurtenances which are owned/operated by the permittee are operated and maintained in a manner that achieves compliance with all terms and conditions of this permit.

b. The permittee shall operate the treatment works using a licensed operator in accordance with N.J.S.A. 58:11-66(a), N.J.A.C. 7:14A-6.12(b) and N.J.A.C. 7:10A.

c. The permittee shall provide adequate operator staffing for the treatment works,

d. The permittee shall provide documentation that ensures that employees are properly trained to perform the operation and maintenance duties required and to follow the Standard Operating Procedures (SOPs) in the O&M Program and corresponding Manual. This shall include a current training program for the purpose of informing new employees and maintaining training levels for current employees in regards to the O&M Program and corresponding Manual, including safety related concerns.

e. The permittee shall implement an O&M Program & corresponding Manual that includes, at a minimum, the following.

i. A directory of appropriate O&M staff, including a description of their individual responsibilities and emergency contact information.

ii. A description of the permittee's Fats, Oils and Grease (FOG) Program.

iii. An updated characterization of the entire collection system owned/operated by the permittee that conveys flows to the treatment works. The permittee may use previous studies to the extent that they are accurate and representative of a properly operated and maintained sewer system and of the currently required information. This characterization shall include a spreadsheet (the spreadsheet shall be completed no later than at the time of the first quarterly Progress Report), organized by CSO outfall, as appropriate, of the capacity, dimensions, age, type of material, and specific location of:

- Tide gates;
- Solids/floatables controls;
- Regulators;
- Catch basins;
- gravity lines and force mains, including size, length and direction of flow;
- Manholes, including invert elevations of all gravity sewers inlets and outlets;
- Pump stations;
- Significant Industrial Users (SIUs); and
- Specific locations that have historically experienced the following: blockages, bottlenecks, flow constrictions, sewer overflows including to basements, streets and other public and private areas, overflows or related incidences.

f. The permittee shall delineate the characterization information required in Section F.1.e.iii., on a GIS map, as applicable, pursuant to N.J.A.C. 7:1D-Appendix A and shall follow the NJ GIS protocol at http://www.state.nj.us/dep/gis/standard.htm. This map shall be completed on or before the first annual update of the O&M Program and Manual.

g. The permittee shall review its rules, ordinances, and its sewer use agreements with its customer municipalities and revise them within 4 months of the EDP if necessary to require the customer municipalities to:

i. operate and maintain their treatment works,

ii. identify Infiltration and Inflow (I/I) and reduce where appropriate, and

iii. identify and eliminate interconnections and cross-connections in storm sewers.

h. The permittee shall also include Standard Operating Procedures (SOPs) in the O&M Program and corresponding Manual for the operation, inspections, and scheduled preventative maintenance in accordance with the appropriate manufacturer's recommendations and equipment manuals at a minimum, to ensure that the entire collection system that is owned/operated by the permittee that conveys flows to the treatment works will function properly. At a minimum the SOPs shall contain detailed instructions for system operations, such as frequency of inspections, regular maintenance, and the timely repair, and documentation of such information, of the entire collection system that conveys flows to the treatment works. These SOPs shall include procedures to.

i. Ensure that the entire collection system owned/operated by the permittee that conveys flows to the treatment works functions at all times in such a way as to not result in sewage overflows including to basements, streets and other public and private areas, or bottlenecks/constrictions that limit flow in specific areas and prevent the downstream STP treatment capacity from being fully utilized, in accordance with Section F.4.

ii. Ensure that the storage and conveyance of combined sewage to the STP is maximized in accordance with Sections F.2 and F.4.

iii. Ensure that the discharges from SIUs contributing to the CSOs are minimized to the greatest extent practicable in accordance Section F.3.

iv. Provide a gravity sewer cleaning schedule.

v. Provide a system for documenting, assessing, tracking, and addressing residential complaints regarding blockages, bottlenecks, flow constrictions, sewer overflows including to basements, streets and other public and private areas, or related incidents.

vi. Remove as soon as possible, any obstructions due to debris, Fats, Oils and Greases, and sediment buildup, or other foreign materials in the collection system owned/operated by the permittee.

vii. Require immediate corrective action(s) to repair damage and/or structural deterioration, address unpermitted discharges, of the entire collection system owned/operated by the permittee that conveys flows to the treatment works.

viii. Provide for ongoing infiltration and inflow (I/I) reduction strategies through the identification of I/I sources and the prioritization and implementation of I/I reduction projects.

ix. Identify the equipment currently owned, operated and maintained for investigating and maintaining the entire CSS and, at a minimum, reference the appropriate equipment manuals.

x. Provide procedures whereby wet weather flows are maximized for conveyance to the STP.

i. The permittee shall incorporate an Asset Management Plan as part of the overall O&M strategy. This plan shall include an infrastructure inventory with infrastructure

repair/replacement needs listed and scheduled according to priority/criticality, that ensures the entire collection system owned/operated by the permittee that conveys flows to the treatment works is perpetually and proactively managed with the appropriate resources (capital, staffing, training, supplies, equipment) allocated in the permittee's budget as prepared and submitted to Department of Community Affairs. The Asset Management Plan shall be completed no later than at the time of the first quarterly Progress Report.

j. The permittee shall also include in the O&M Program and corresponding Manual, an Emergency Plan, in accordance with N.J.A.C. 7:14A-6.12(d). The Emergency Plan shall provide for, to the maximum extent possible, uninterrupted treatment works operation during emergency conditions using in-house and/or contract based services. The Emergency Plan shall include Standard Operating Procedures (SOPs), which ensure the effective operation of the treatment works under emergency conditions, such as extreme weather events (including 100 and 500 year storm events) and extended periods of no power, (e.g., 7 days and 14 days).

k. The permittee shall amend the O&M Program & Manual no less frequent than annually to reflect updated information and changes in the characterization, design, construction, operations, maintenance, Emergency Plan, and SOPs as listed in Section F.1. and include verification that the O&M Program and corresponding Manual has been prepared and updated in accordance with the submittal requirements in Section D.4.

2. Maximum use of the collection system for storage

a. The permittee shall use the entire collection system owned/operated by the permittee for in-line storage of sewage for future conveyance to the STP when sewer system flows subside by ensuring that the sewage is retained in the sewer system to the extent possible to minimize CSO discharges (volume, frequency and duration), while not creating or increasing sewage overflows, including to basements, streets and other public and private areas.

b. The permittee shall minimize the introduction of sediment and obstructions in the entire collection system owned/operated by the permittee that conveys flows to the treatment works pursuant to Sections F.1. and F.7.

c. The permittee shall operate and maintain the entire collection system owned/operated by the permittee that conveys flows to the treatment works pursuant to Section F.1.

d. The permittee shall identify and implement minor modifications, based on the ongoing evaluations from the characterization required under Section F.1. to enable the entire collection system owned/operated by the permittee that conveys flows to the treatment works to store additional wet weather flows to reduce any sewage overflows until downstream sewers and treatment facilities can adequately convey and treat the flows.

3. Review and modification of pretreatment requirements to assure CSO impacts are minimized

a. The permittee shall determine the locations, associated CSO outfalls and discharge nature of the Significant Industrial Users (SIUs) for the entire collection system which is owned/operated by the permittee; determine and prioritize the potential environmental impact of these SIUs by CSO outfall; include this information in the characterization portion of the

O&M Program and corresponding Manual as required in Section F.1. This information shall be updated annually in the Progress Report in accordance with Section D.4.

b. The permittee shall require that SIUs investigate ways to minimize their dischargers during wet weather and report their findings to the permittee.

c. When and where necessary, the permittee shall establish agreements with SIUs or ordinances specifying that the SIUs (especially for batch discharges, non-continuous dischargers) should restrict discharges to the greatest extent practicable during wet weather periods.

4. Maximization of flow to the POTW for treatment

a. The permittee shall operate and maintain the entire collection system owned/operated by the permittee that conveys flows to the treatment works and treatment plant to maximize the conveyance of wastewater to the STP for treatment.

b. The permittee shall evaluate and implement low cost alternatives for increasing flow to the STP in accordance with i. and ii. below.

i. Capacity evaluations of the entire collection system owned/operated by the permittee that conveys flows to the treatment works in accordance with Section F.1.e.iii. to determine the maximum amount of flow that can be stored and transported.

ii. Identification of other activities conducted and/or planned to further maximize flow to the POTW.

5. Prohibition of CSOs during dry weather

a. Since the permittee does not own/operate any CSO outfalls, there are no monitoring report requirements at this time.

6. Control of solids/floatables in CSOs

a. Since the permittee does not own/operate any CSO outfalls, there are no monitoring report requirements at this time.

7. Implementation of Pollution Prevention Measures

a. Unless demonstrated to the Department to be impracticable measures shall include, but not be limited to, the following:

i. Implementation of public education programs.

ii. Enforcement of illegal dumping regulations.

iii. Revision as necessary of applicable rules, ordinances and sewer use agreements to address the reduction of inflow and infiltration (I/I) into the collection system where feasible.

8. Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts

a. Since the permittee does not own and/or operate any CSO outfalls, this proposed permit action does not include the requirement to ensure that the public receives notification of CSO occurances and impacts at this time.

9. Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls

a. Since the permittee does not own/operate any CSO outfalls, there is no monitoring to characterize CSO impacts and controls at this time.

G. LONG TERM CONTROL PLAN REQUIREMENTS:

1. Characterization, Monitoring and Modeling of the Combined Sewer System

a. The permittee and other hydraulically connected communities, shall submit an updated characterization study as per D.3.a, that will result in a comprehensive characterization of the CSS developed through records review, monitoring, modeling and other means as appropriate to establish the existing baseline conditions, evaluate the efficacy of the CSO technology based controls, and determine the baseline conditions upon which the LTCP will be based. The characterization shall include a thorough review of the entire collection system that conveys flows to the treatment works, including areas of sewage overflows, including to basements, streets and other public and private areas, to adequately address the response of the CSS to various precipitation events; identify the number, location, frequency and characteristics of CSOs; and identify water quality impacts that result from CSOs. Ambient in-stream monitoring shall be performed in accordance with the guidance document entitled *To Be Determined.*

The permittee may use previous studies to the extent that they are accurate and representative of a properly operated and maintained sewer system and of the currently required information.

A complete list of studies performed by all CSO permittees in BCUA's hydraulically connected system is summarized in Appendix C at the end of this permit.

b. The major elements of the sewer system characterization are noted below.

i. Rainfall Records--The permittee shall examine the rainfall record as per Section F.9. for the geographic area of its existing CSS using sound statistical procedures and best available data. The permittee shall evaluate flow variations in the receiving water body to correlate between CSOs and receiving water conditions.

ii. Combined Sewer System Characterization—the permittee shall evaluate sewer system records, field inspections gathered from the O&M Characterization required under Section F.1. (and other previous relevant studies), and other activities necessary to understand the number, location and frequency of overflows and their location relative to sensitive areas and to pollution sources in the collection system, such as SIUs.

iii. CSO Monitoring - Using all available information, including the information gathered from Section F.9., the permittee shall develop and/or update a previously existing, comprehensive, representative monitoring program that measures the frequency, duration, flow rate, volume and pollutant concentration of CSO discharges and assesses the impact of the CSOs on the receiving waters. The monitoring data summary may utilize existing data from previous studies, and must include necessary CSO effluent and ambient in-stream monitoring for pathogens (including current and recreational standards for bacteriological indicators (e.g., fecal coliform, Enterococcus and E. Coli)). This ambient baseline monitoring requirement may also satisfy the baseline monitoring requirement in Section G.9. A representative sample of overflow points can be selected that is sufficient to allow characterization of CSO discharges, their water quality impacts and to facilitate evaluation of control plan alternatives.

iv. Modeling – the permittee may employ NJDEP or EPA approved models, which include appropriate calibration and verification with field measurements, to aid in the characterization. If models are used they shall be identified by the permittee along with an explanation of why the model was selected and used in the characterization. The permittee should base its choice of a model on the characteristics of the entire collection system that conveys flows to the treatment works (including flows from other hydraulically connected municipal sewer systems), the number and location of overflow points, and the sensitivity of the receiving water body to the CSO discharges. The sophistication of the model should relate to the complexity of the system to be modeled and to the information needs associated with evaluation of CSO control options and water quality impacts. Because of the iterative nature of modeling sewer systems, CSOs, and their impacts, monitoring and modeling efforts are complementary and should be coordinated with other affected entities.

v. The permittee shall identify sensitive areas where CSOs occur. These areas include designated Outstanding National Resource Waters, National Marine Sanctuaries, waters with threatened or endangered species and their habitat, waters with primary contact recreation, bathing beaches, public drinking water intakes or their designated protection areas, and shellfish beds.

2. Public Participation Process

a. The permittee shall submit the Public Participation Plan in accordance with D.3.a. The permittee may use information from the following previous submittals:

- Public Participation Report, Bergen Conuty CSO Group, prepared by Hatch Mott MacDonald, dated April 2007.

A complete list of studies performed by all CSO permittees in BCUA's hydraulically connected system is summarized in Appendix C at the end of this permit.

Implementation shall actively involve the affected public throughout each of the 3 Steps of the LTCP process. The affected public includes rate payers (including rate payers in the separate sewer sections), industrial users of the sewer system, persons who reside downstream from the CSOs, persons who use and enjoy the downstream waters, and any other interested persons.

b. The permittee shall invite members of the affected/interested public to establish a supplemental CSO Team to work with the permittee's assigned staff from Section F.1.

3. Consideration of Sensitive Areas

a. The permittee's LTCP shall give the highest priority to controlling overflows to sensitive areas in accordance with D.3.a. Sensitive areas include designated Outstanding National Resource Waters, National Marine Sanctuaries, waters with threatened or endangered species and their habitat, waters with primary contact recreation, bathing beaches, public drinking water intakes or their designated protection areas, and shellfish beds.

b. The LTCP shall comply with the following requirements.

i. Prohibit new or significantly increased CSO overflows.

ii. Eliminate or relocate CSO overflows that discharge to sensitive areas wherever physically possible and economically achievable, except where elimination or relocation would provide less environmental protection than additional treatment.

iii. Where elimination or relocation is not physically possible and economically achievable, or would provide less environmental protection than additional treatment, provide the level of treatment for remaining CSO overflows deemed necessary to meet WQS for full protection of existing and designated uses.

4. Evaluation of Alternatives

a. The permittee shall evaluate a range of CSO control alternatives, in accordance with D.3.a, that will provide for attainment of water quality standards using either the Presumption Approach or the Demonstration Approach (as defined in Section F. and G.).

b. The permittee shall submit, as per Section D.3.b.iii., the Evaluation of Alternatives Report that will enable the permittee, in consultation with the Department, the public, owners and/or operators of the entire collection system that conveys flows to the treatment works, to select the alternatives to ensure the CSO controls will meet CWA requirements, ensure CSO discharges do not cause exceedances of any water quality criteria, will be protective of the existing and designated uses in accordance with N.J.A.C. 7:9B, give the highest priority to controlling CSOs to sensitive areas and address minimizing impacts from SIU discharges.

c. The permittee shall select either Demonstrative or Presumptive Approach for each group of hydraulically connected CSOs, and identify each CSO group and its individual discharge locations.

d. The Evaluation of Alternatives Report shall include a list of control alternative(s) evaluated for each CSO.

e. The permittee shall evaluate a range of CSO control alternatives predicted to accomplish the requirements of the CWA. In its evaluation of each potential CSO control alternative, the permittee shall use an NJDEP approved hydrologic, hydraulic and water quality models. The permittee shall utilize the models to simulate the existing conditions and conditions as

they are expected to exist after construction and operation of the chosen alternative(s). The permittee shall evaluate the practical and technical feasibility of the proposed CSO control alternative, and water quality benefits of constructing and implementing various remedial controls and combination of such controls and activities which shall include, but not be limited to the controls below.

i. Green infrastructure (which allows for greater removal of load/flow per gallon captured).

ii. Increased storage capacity in the collection system.

iii. STP expansion and/or storage at the plant (an evaluation of the capacity of the unit processes must be conducted at the STP resulting in a determination of whether there is any additional treatment capacity available at the STP). Based upon this information, the permittee shall determine (modeling may be used) the amount of CSO discharge reduction that would be achieved by utilizing this additional treatment capacity while maintaining compliance with all permit limits.

iv. I/I reduction in the entire collection system that conveys flows to the treatment works to free up storage capacity or conveyance in the sewer system and/or treatment capacity at the STP, and feasibility of implementing in the entire system or portions thereof.

v. Sewer separation.

vi. CSO discharge treatment.

vii. CSO related bypass of the secondary treatment portion of the STP in accordance with N.J.A.C. 7:14A-11.12 Appendix C, II C.7.

f. The "Presumption" Approach, in accordance with N.J.A.C 7:14A-11 Appendix C provides:

A program that meets any of the criteria listed below will be presumed to provide an adequate level of control to meet the water quality-based requirements of the CWA, provided the Department determines that such presumption is reasonable in light of the data and analysis conducted in the characterization, monitoring, and modeling of the system and the consideration of sensitive areas described above.

i. No more than an average of four overflow events (see below) per year from a hydraulically connected system as the result of a precipitation event that does not receive the minimum treatment specified below. These four overflow events shall be calculated over a 60 month rolling average, provided that the Department may allow up to two additional overflow events per year. For the purpose of this criterion, an 'event' is:

- In a hydraulically connected system that contains only one CSO outfall, multiple periods of overflow are considered one overflow event if the time between periods of overflow is no more than 24 hours.

- In a hydraulically connected system that contains more than one CSO outfall, multiple periods of overflow from one or more outfalls are considered one overflow event if the time between periods of overflow is no more than 24 hours without a discharge from any outfall.

ii. The elimination or the capture for treatment of no less than 85% by volume of the combined sewage collected in the CSS during precipitation events on a system-wide annual average basis.

iii. The elimination or removal of no less than the mass of the pollutants, identified as causing water quality impairment through the sewer system characterization, monitoring, and modeling effort, for the volumes that would be eliminated or captured for treatment under Section G.4.f.ii.

Combined sewer overflow remaining after implementation of the NMCs and within the criteria specified in Section G.4.f.ii. and iii., shall receive minimum treatment in accordance with the items below.

- Primary clarification (Removal of floatables and settleable solids may be achieved by any combination of treatment technologies or methods that are shown to be equivalent to primary clarification.).

- Solids and floatables disposal.

- Disinfection of effluent, if necessary, to meet WQS, protect designated uses and protect human health, including removal of harmful disinfection chemical residuals, where necessary.

g. The "Demonstration" Approach, in accordance with N.J.A.C. 7:14A-11 Appendix C provides.

A permittee may demonstrate that a selected control program, though not meeting the criteria specified under the Presumption Approach above, is adequate to meet the water quality-based requirements of the CWA.

The permittee must demonstrate each of the following below.

i. The planned control program is adequate to meet WQS and protect designated uses, unless WQS or uses cannot be met as a result of natural background conditions or pollution sources other than CSOs.

iii. The CSO discharges remaining after implementation of the planned control program will not preclude the attainment of WQS or the receiving waters' designated uses or contribute to their impairment.

iii. The planned control program will provide the maximum pollution reduction benefits reasonably attainable.

iv. The planned control program is designed to allow cost effective expansion or cost effective retrofitting if additional controls are subsequently determined to be necessary to meet WQS or designated uses.

5. Cost/Performance Considerations

a. The permittee shall submit in accordance with the submittal requirements at Sections D.3.a and D.3.b.iii., the cost/performance considerations that demonstrate the relationships among proposed control alternatives that correspond to those required in accordance with Section G.4. This shall include an analysis to determine where the increment of pollution reduction achieved in the receiving water diminishes compared to the increased costs. If the permittee chooses to pursue the "Presumption Approach" of 'no more than an average of four discharge events per year', the permittee is not required to conduct this analysis for the other number of events (i.e. 0, 7, 10, 20). This analysis, often known as "knee of the curve", shall be among the considerations used to help guide selection of controls.

In accordance with Section G.1.a., the permittee may use previous studies to the extent that they are accurate and representative of a properly operated and maintained sewer system and of the currently required information, such as:

- CSO Long Term Control Plan, Cost & Performance Analysis, Volume 1, prepared by Hatch Mott MacDonald, dated March 2007.
- CSO Long Term Control Plan, Cost & Performance Analysis, Volume 2, Technical Guidance Manual, prepared by Hatch Mott MacDonald, dated December 2006.

A complete list of studies performed by all CSO permittees in BCUA's hydraulically connected system is summarized in Appendix C at the end of this permit.

6. Operational Plan

a. Upon Department approval of the final LTCP and throughout implementation of the approved LTCP as appropriate, the permittee shall modify the O&M Program and Manual, in accordance with D.3.a, to address the final LTCP CSO control facilities and operating strategies, including but not limited to, maintaining Green Infrastructure, staffing and budgeting, inflow/infiltration, and emergency plans.

7. Maximizing Treatment at the Existing STP

a. The LTCP shall include the maximization of the removal of pollutants during and after each precipitation event at the STP, in accordance with D.3.a, ensuring that such flows receive treatment to the greatest extent practicable utilizing existing tankage for storage, while still meeting all permit limits.

8. Implementation Schedule

a. The permittee shall submit a construction and financing schedule, in accordance with D.3.a, for implementation of NJDEP approved LTCP CSO controls. Such schedules may be phased based on the relative importance of the adverse impacts upon water quality standards, the permittee's financial capability, and other water quality related infrastructure improvements, including those related to stormwater improvements that would be connected to CSO control measures.

b. Upon Department approval of the LTCP, the permittee shall begin implementation of the LTCP in accordance with the schedule contained therein.

c. In accordance with Section D.3.b.iv., the permittee shall submit an implementation schedule, including yearly milestones, which considers the below.

i. Adequately addressing areas of sewage overflows, including to basements, streets and other public and private areas.

ii. CSO overflows that discharge to sensitive areas as the highest priority.

iii. Use impairment of the receiving water.

iv. The permittee's financial capability including consideration of such factors as below.
- Median household income.
- Total annual wastewater and CSO control costs per household as a percent of median household income.
- Overall net debt as a percent of full market property value.
- Property tax revenues as a percent of full market property value.
- Property tax collection rate.
- Unemployment.
- Bond rating.

v. Grant and loan availability.

vi. Previous and current residential, commercial and industrial sewer user fees and rate structures.

vii. Other viable funding mechanisms and sources of financing.

viii. Resources necessary to design, construct and/or implement other water related infrastructure improvements as part of an overall asset management plan.

9. Compliance Monitoring Program (CMP)

The monitoring information collected from the baseline monitoring phase of the CMP, in accordance with D.3.a, will be compared to subsequent CMP events during and after LTCP implementation to evaluate the effectiveness of implemented CSO controls.

a. The permittee shall implement a CMP, adequate to verify baseline and existing conditions, the effectiveness of CSO controls, compliance with water quality standards, and protection of designated uses. This CMP shall be conducted before, during and after implementation of the LTCP and shall include a work plan to be approved by the Department that details the monitoring protocols to be followed, including the following necessary monitoring below.

i. Ambient in-stream monitoring shall be performed in accordance with the guidance document entitled: *To Be Determined.*

ii. Discharge frequency for each CSO (days/hours per month).

iii. Duration of each discharge (event) for each CSO (start and stop times for each calendar day).

iv. Quality of the flow discharged from each CSO, which shall include pathogen monitoring at a minimum.

v. Rainfall monitoring in the vicinity of each CSO/municipality.

vi. Characterization monitoring and modeling of the CSS in accordance with Section G.1.

The permittee may use previous studies to the extent that they are accurate and representative of a properly operated and maintained sewer system and of the currently required information.

A complete list of studies performed by all CSO permittees in BCUA's hydraulically connected system is summarized in Appendix C at the end of this permit.

b. For the Demonstration Approach, the above monitoring must be ongoing every year upon LTCP approval to document trends in water quality due to CSO discharges. The results must be submitted in the Progress Reports required in Section D.4.

c. For the Presumption Approach, the above monitoring may be reduced, with prior Departmental approval, during construction/implementation of the CSO controls.

APPENDIX A:

CHRONIC TOXICITY TESTING SPECIFICATIONS

FOR USE IN THE NJPDES PERMIT PROGRAM

Version 2.1

May 1997

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Notice: Mention of trade names or commercial products do not constitute endorsement or recommendation for use.

I. AUTHORITY AND PURPOSE

These methods specifications for the conduct of whole effluent chronic toxicity testing are established under the authority of the NJPDES permitting program, N.J.A.C. 7:14A-6.5(a)2 and 40 CFR 136, for discharges to waters of the State. The methods referenced herein are included by reference in 40 CFR 136, Table 1.A. and, therefore, constitute approved methods for chronic toxicity testing. The information contained herein serves to clarify testing requirements not sufficiently clarified in those methods documents and also serves to outline and implement the interlaboratory Standard Reference Toxicant Program until a formal laboratory certification program is established under N.J.A.C. 7:18. As such these methods are intended to be used to determine compliance with discharge permits issued under the authority of the NJPDES permit program. Tests are to be conducted in accordance with the general conditions and test organism specific method specifications contained in this document. All other conditions and specifications can be found in 40 CFR 136 and USEPA methodologies.

Until a subchapter on chronic toxicity testing within the regulations governing the certification of laboratories and environmental measurements (N.J.A.C. 7:18) becomes effective, tests shall be conducted in conformance with the methodologies as designated herein and contained in 40 CFR 136. The laboratory performing the testing shall be within the existing acute toxicity testing laboratory certification program established under N.J.A.C. 7:18, as required by N.J.A.C. 7:9B-1.5(c)5.

Testing shall be in conformance with the subchapter on chronic toxicity testing within the N.J.A.C. 7:18 when such regulations become effective. The laboratory performing the toxicity testing shall be within the chronic toxicity testing laboratory certification program to be established under that subchapter, when it becomes effective.

These methods are incorporated into discharge permits as enforceable permit conditions. Each discharge permit will specify in Part IV of the permit, the test species specific methods from this document that will be required under the terms of the discharge permit. Although the test species specific methods for each permit are determined on a case-by-case basis, the purpose of this methods document is to assure consistency among dischargers and to provide certified laboratories with information on the universe of tests to be utilized so that they can make the necessary preparations, including completing the required Standard Reference Toxicant testing. Please note that these methodologies are required for compliance testing only. Facilities and/or laboratories conducting testing under the requirements of a Toxicity Identification Evaluation or for informational purposes are not bound by these methods.

This document constitutes the second version of the NJDEP's interim chronic methodologies. This version contains no significant changes to the test methods themselves. However, in keeping with the Department's continued emphasis on good laboratory practices and quality control, the areas addressing the Standard Reference Toxicant Program, data analysis and data reporting, have been significantly revised.

II. GENERAL CONDITIONS

A. LABORATORY SAFETY, GLASSWARE, ETC.

All safety procedures, glassware cleaning procedures, etc., shall be in conformance with 40 CFR 136 and USEPA's "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms," "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms" and N.J.A.C. 7:18.

B. TEST CONCENTRATIONS / REPLICATES

All testing is to be performed with a minimum of five effluent concentrations plus a dilution water control. A second reference water control is optional when a dilution water other than culture water is used. The use of both a 0.5 or 0.75 dilution factor is acceptable for the selection of test concentrations. If hypothesis testing will be used to determine the test endpoint, one effluent concentration shall be the chronic permit limitation, unless the existing data for the discharge indicate that the NOEC is expected to be significantly less than the permit limit. The use of the 0.5 dilution factor may require more than five dilutions to cover the entire range of effluent concentrations as well as the chronic permit limit, since the permit limit will often not be one of the nominal concentrations in a 0.5 dilution series. In such an instance, the 0.5 dilution series may be altered by including an additional test concentration equal to the permit limit in the dilution series, or by changing the concentration closest to the permit toxicity limit to be equal to that limit. The Department recommends the use of the 0.75 dilution factor using Table 1.0 to determine test concentrations. That table establishes test concentrations based on the chronic toxicity limitation.

For either the 0.5 or 0.75 dilution factor, there shall be at least one test concentration above the permit limitation and at least three test concentrations below the permit limit along with the dilution water control unless the permit limitation prohibits such (e.g., limitations greater than 75% effluent). An effort shall be made to bracket the anticipated test result.

To use Table 1.0, locate the permit limit in column 4. The dilution series becomes the row that corresponds to the permit limit in column 4. For example, a permit limit of 41 would require a dilution series of the dilution water control, 17%, 23%, 31%, 41% and 55% effluent.

The number of replicates used in the test must, at a minimum, satisfy the specifications of the applicable methods contained herein. Increased data sensitivity can be obtained by increasing the number of replicates equally among test concentrations and thus an increased number of replicates is acceptable. Further, the use of nonparametric statistical analysis requires a minimum of four replicates per test concentration. If the data for any particular test is not conducive to parametric analyses and if less than four replicates were included, the test may not be considered acceptable for compliance purposes.

The use of single concentration tests consisting of the permit limitation as a concentration and a control is not permitted for compliance purposes, but may be used by a permittee in the conduct of a Toxicity Investigation Evaluation (TIE) or for information gathering purposes. Such a test would be considered a "pass" if there was no significant difference in test results, using hypothesis testing methods.

Table 1.0: 0.75 DILUTION SERIES INDEXED BY PERMIT LIMIT

				Permit Limit						Permit Limit	
Col #	1	2	3	4	5	Col #	1	2	3	4	5
	0.4	0.6	0.8	1	1.3		22	29	38	51	68
	0.8	1.1	1.5	2	2.7		22	29	39	52	69
	1.3	1.7	2.3	3	4		22	30	40	53	71
	1.7	2.3	3	4	5.3		23	30	41	54	72
	2.1	2.8	3.8	5	6.7		23	31	41	55	73
	2.5	3.4	4.5	6	8		24	32	42	56	75
	3	4	5	7	9		24	32	43	57	76
	3	5	6	8	11		24	33	44	58	77
	4	5	7	9	12		25	33	44	59	79
	4	6	8	10	13		25	34	45	60	80
	5	6	8	11	15		26	34	46	61	81
	5	7	9	12	16		26	35	47	62	83
	5	7	10	13	17		27	35	47	63	84
	6	8	11	14	19		27	36	48	64	85
	6	8	11	15	20		27	37	49	65	87
	7	9	12	16	21		28	37	50	66	88
	7	10	13	17	23		28	38	50	67	89
	8	10	14	18	24		29	38	51	68	91
	8	11	14	19	25		29	39	52	69	92
	8	11	15	20	27		30	39	53	70	93
	9	12	16	21	28		30	40	53	71	95
	9	12	17	22	29		30	41	54	72	96
	10	13	17	23	31		31	41	55	73	97
	10	14	18	24	32		31	42	56	74	99
	11	14	19	25	33		32	42	56	75	100
	11	15	20	26	35	24	32	43	57	76	
	11	15	20	27	36	24	32	43	58	77	
	12	16	21	28	37	25	33	44	59	78	
	12	16	22	29	39	25	33	44	59	79	
	13	17	23	30	40	25	34	45	60	80	
	13	17	23	31	41	26	34	46	61	81	
	14	18	24	32	43	26	35	46	62	82	
	14	19	25	33	44	26	35	47	62	83	
	14	19	26	34	45	27	35	47	63	84	
	15	20	26	35	47	27	36	48	64	85	
	15	20	27	36	48	27	36	48	65	86	
	16	21	28	37	49	28	37	49	65	87	
	16	21	29	38	51	28	37	50	66	88	
	16	22	29	39	52	28	38	50	67	89	
	17	23	30	40	53	28	38	51	68	90	
	17	23	31	41	55	29	38	51	68	91	
	18	24	32	42	56	29	39	52	69	92	
	18	24	32	43	57	29	39	52	70	93	
	19	25	33	44	59	30	40	53	71	94	
	19	25	34	45	60	30	40	53	71	95	
	19	26	35	46	61	30	41	54	72	96	
	20	26	35	47	63	31	41	55	73	97	
	20	27	36	48	64	31	41	55	74	98	
	21	28	37	49	65	31	42	56	74	99	
	21	28	38	50	67	32	42	56	75	100	

* Select the dilution series by finding the row which contains the permit limit in column #4.
NOTE: All values are in units of "% effluent" not toxic units.

C. DILUTION WATER

1. Marine and Estuarine Waters

A high quality natural water, such as the Manasquan River Inlet is strongly recommended as the dilution water source for chronic toxicity testing with marine and estuarine organisms. The use of the receiving water as the dilution water source is not required. Saline waters prepared with hypersaline brine and deionized water may also be used as dilution water. Hypersaline brines shall be prepared from a high quality natural seawater and shall not exceed a concentration of 100 ppt. The type of a dilution water for a permittee may not be changed without the prior approval of the Department.

The standard test salinity shall be 25 ppt, except for *Champia parvula,* which shall be tested at 30 ppt. Since most effluents are freshwater based, in most cases it will be necessary to adjust the salinity of the test concentrations to the standard test salinity.

2. Fresh Waters

A high quality natural water, such as Round Valley Reservoir (if access is allowed) or Lake Hopatcong, is strongly recommended as the dilution water source for chronic toxicity testing with freshwater organisms. It is not required to perform the toxicity testing with the receiving water as dilution water. Tests performed with a reconstituted water or up to 20% Diluted Mineral Water (DMW) as dilution water is acceptable. For testing with *Ceriodaphnia dubia*, the addition of 5 µg/l selenium (2 µg/l selenium with natural water) and 1 µg/l vitamin B12 is recommended (Keating and Dagbusan, 1984: Keating, 1985 and 1988). The source of a dilution water for a permittee may not be changed without the prior approval of the Department. Reconstituted water and DMW should be prepared with Millipore Super Q^R or equivalent, meet the requirements of N.J.A.C. 7:18-6 and should be aerated a minimum of 24 hrs prior to use, but not supersaturated.

D. EFFLUENT SAMPLE COLLECTION

Effluent samples shall be representative of the discharge being regulated. For each discharge serial number (DSN), the effluent sampling location shall be the same as that specified in the NJPDES permit for other sampling parameters unless an alternate sampling point is specified in the NJPDES discharge permit. For industrial dischargers with a combined process/sanitary waste stream, effluent sampling shall be after chlorination, unless otherwise designated in the permit.

For continuous discharges, effluent sampling shall consist of 24 hour composite samples consisting either of equal volumes taken once every hour or of a flow-proportionate composite sample, unless otherwise approved by the Department. At a minimum, three samples shall be collected as specified above, one every other day. The first sample shall be used for test initiation and the first renewal. The second sample for the next two renewals. The third sample shall be used for the final three renewals. For the *Champia* and *Selenastrum* tests, a single sample shall be collected not more than 24 hours prior to test initiation. No effluent sample shall be over 72 hours old at the time of its use to initiate or renew solutions in a test. It is acceptable to collect samples more frequently for chronic WET testing and if samples are collected daily for acute toxicity testing conducted concurrently, available samples may be used to renew the test solutions as appropriate.

For all other types of discharges, effluent sampling shall be conducted according to specifications contained within the discharge permit, methodology questionnaire or as otherwise specified by the Department. The use of grab samples or other special sampling procedures will be based on time of occurrence and duration of intermittent discharge events.

If a municipal discharger has concerns that the concentrations of ammonia and/or chlorine in an effluent are adequate to cause violations of the permit limit for chronic toxicity testing, the permittee should conduct analyses, as specified in USEPA's toxicity investigation methods documents, to illustrate the relationship between chronic effluent toxicity and chlorine and/or ammonia as applicable. This data may then be submitted

to the Department as justification for a request to use modified test procedures, which account for ammonia and/or chlorine toxicity, in future chronic toxicity tests. The Department may, where adequate justification exists, permit the adjustment of these pollutants in the effluent sample if discharge limits for these pollutants are contained in the NJPDES permit and those permit limitations are adequate for the protection of water quality. Any proposed modified test procedures to adjust effluent chlorine and/or ammonia shall be approved by the Department prior to use of those test procedures for any compliance testing.

Except for filtration through a 2 mm or larger screen or an adjustment to the standard test salinity, no other adjustments to the effluent sample shall be made without prior written approval by the Department. Aeration of samples prior to test start shall be minimized where possible and samples shall not be aerated where adequate saturation exists to maintain dissolved oxygen.

E. PHYSICAL CHEMICAL MEASUREMENTS

At a minimum, the physical chemical measurements shall be as follows:

- pH and dissolved oxygen shall be measured at the beginning and end of each 24 hour exposure period, in at least one chamber, of the high, medium and low test concentrations and the control. In order to ensure that measurements for these parameters are representative of the test concentrations during the test, measurements for these parameters should be taken in an additional replicate chamber for such concentrations which contains no test organisms, but is subject to the same test conditions.

- Temperature shall either be monitored continuously, measured daily in at least two locations in the environmental control system, or measured at the beginning of each 24 hr exposure period in at least one replicate for each treatment.

- Salinity shall be measured in all salt water tests at the beginning of each 24 hour exposure period, in at least one replicate for each treatment.

- For all freshwater tests, alkalinity, hardness and conductivity shall be measured in each new sample (100% effluent) and control.

- Nitrite, nitrate and ammonia shall be measured in the control before each renewal in the mysid test only.

- For samples of discharges where concentrations of ammonia and/or chlorine are known or are suspected to be sufficient to cause toxicity, it is recommended that the concentrations of these pollutants be determined and submitted with the standardized report form. The laboratory is advised to consult with the permittee to determine if these parameters should be measured in the effluent. Where such measurements are deemed appropriate, measurements shall be conducted at the beginning of each 24 hour exposure period. Also, since a rise in the test pH can affect the toxicity of ammonia in the effluent, analysis of ammonia during the test may be appropriate if a rise in pH is accompanied by a significant increase in mortality.

F. STATISTICS

The use of both hypothesis testing techniques and point estimate techniques are currently in use by the Department or by permittees for compliance purposes. The NJPDES permit should be checked to determine which type of analysis is required and appropriate for each specific facility. It is not acceptable to simply evaluate any data by "visual data review" unless in the analysis of survival data, no mortality occurred in the test. All data sets must be appropriately statistically evaluated.

For hypothesis testing techniques, statistical analysis shall follow the protocols in USEPA (1988, 1989) to evaluate adverse effects. A significance level of 0.05 shall be utilized to evaluate such effects. Use of a protocol not contained in these documents must be accompanied by a reference and explanation addressing its

applicability to the particular data set. Please note the following when evaluating data using hypothesis testing techniques.

Special attention should be given to the omission and inclusion of a given replicate in the analysis of mysid fecundity data (USEPA 1994, p. 275) and *Ceriodaphnia* reproduction data (USEPA 1994, page 174).

Determination of acceptability criteria and average individual dry weight for the growth endpoints must follow the specifications in the applicable documents (e.g., p.84 for saltwater methods document.)

Use of nonparametric statistical analyses requires a minimum of four replicates per test concentration. If the data for any particular test are not conducive to parametric analyses and if less than four replicates were included, the test may not be acceptable to the Department.

Where hypothesis testing is used for compliance purposes, if the results of hypothesis testing indicate that a deviation from the dose response occurs such that two test concentrations are deemed statistically significant from the control but an intermediate test concentration is not, the test is deemed unacceptable and cannot be used for compliance testing purposes.

For point estimate techniques, statistical analysis should follow the protocol contained in "A Linear Interpolation Method for Sublethal Toxicity: The Inhibition Concentration (ICp) Approach (Version 2.0), July 1993, National Effluent Toxicity Assessment Center Technical Report 03-93." Copies of the program can be obtained by contacting the Department. The linear interpolation estimate ICp values and not the bootstrap mean ICp, shall be reported for permit compliance purposes. The ICp value reported on the Discharge Monitoring Report shall be rounded off as specified in the Department's "Discharge Monitoring Report (DMR) Instruction Manual, December 1993." IC25 values shall be reported under the parameter code listed as "NOEC" on the DMR, until the DMR's are adjusted accordingly.

If the result reported by the ICp method is greater than the highest concentration tested, the test result is reported as "greater than C" where "C" is the highest tested concentration. If the ICp is lower than the lowest concentration tested, the test result is reported as "less than C" where "C" is the lowest tested concentration.

If separate NOEC's/IC25's can be calculated from multiple test endpoints, for example a reproductive endpoint and a growth endpoint, the lowest NOEC/IC25 value expressed in units of "% effluent" will be used to determine permit compliance and should, therefore, be reported as the NOEC/IC25 value for the test. If the NOEC value for growth and/or reproduction is not lower than that for survival, the NOEC/IC25 value reported for the test shall be as survival. For saltwater tests, where additional controls are used in a test (i.e. brine and/or artificial sea salt control), a T-test shall be used to determine if there is a significant difference between the original test control and the additional controls. If there is a significant difference between any of the controls, the test may be deemed unacceptable and if so, will not be used for permit compliance.

III. TEST ACCEPTABILITY CRITERIA

Any test that does not meet these acceptability criteria will not be used by the Department for any purpose and must be repeated as soon as practicable, with a freshly collected sample.

1. Tests must be performed by a laboratory approved for the conduct of chronic toxicity tests and certified for acute toxicity testing under N.J.A.C. 7:18.

2. Test results may be rejected due to inappropriate sampling, including the use of less than three effluent samples in a test and/or use of procedures not specified in a permit or methodology questionnaire, use of frozen or unrefrigerated samples or unapproved pretreatment of an effluent sample.

3. Controls shall meet the applicable performance criteria specified in the Table 2.0 and in the individual method specifications contained herein.

4. Acceptable and applicable Standard Reference Toxicant Data must be available for the test.

5. No unapproved deviations from the applicable test methodology may be present.

6. When using hypothesis testing techniques, a deviation from the dose response as explained in the statistical portion of this document shall not be present in the data.

Table 2.0: CONTROL PERFORMANCE

TEST ORGANISM	MINIMUM SURVIVAL	MINIMUM WEIGHT GAIN	MINIMUM FECUNDITY/ REPRODUCTION
Pimephales promelas	80%	0.25 mg avg	N/A
Ceriodaphnia dubia	80%	N/A	Average of ≥15 young per surviving female
Selenastrum capricornutum	Density ≥2x10^{5}cells/ml	N/A	Variability in controls not to exceed 20%.
Cyprinodon variegatus	80%	0.60 mg (unpreserved) avg 0.50 mg (preserved) avg	N/A
Menidia beryllina	80%	0.50 mg (unpreserved) avg 0.43 mg (preserved) avg	N/A
Mysidopsis bahia	80%	0.2 mg per mysid avg	egg production by 50% of control females if fecundity is used as an endpoint.
Champia parvula	100%	N/A	≥10 cystocarps per plant Plants in controls and lower test concentrations shall not fragment so that individual plants cannot be identified.

THE DETERMINATION OF A TEST AS UNACCEPTABLE DOES NOT RELIEVE THE FACILITY FROM MONITORING FOR THAT MONITORING PERIOD

IV. STANDARD REFERENCE TOXICANT TESTING

All chronic testing shall be accompanied by testing with a Standard Reference Toxicant (SRT) as a part of each laboratory's internal quality control program. Such a testing program should be consistent with the quality assurance/quality control protocols described in the USEPA chronic testing manuals. Laboratories may utilize the reference toxicant of their choice and toxicants such as cadmium chloride, potassium chloride, sodium dodecyl sulfate and copper sulfate are all acceptable. However, Potassium chloride has been chosen by several laboratories and is recommended by the Department. The concentration of the reference toxicant shall be verified by chemical analysis in the low and high test concentrations once each year or every 12 tests, whichever is less. It is not necessary to run SRT tests, for all species using the same SRT.

A. INITIAL STANDARD REFERENCE TOXICANT (SRT) TESTING REQUIREMENTS

At a minimum, this testing shall include an initial series of at least five SRT tests for each test species method. Acceptable SRT testing for chronic toxicity shall be performed utilizing the short term chronic toxicity test methods as specified herein. Reference toxicant tests utilizing acute toxicity testing methods, or any method other than those contained in this document are not acceptable. The laboratory should forward results of the initial SRT testing, including control charts, the name of the reference toxicant utilized, the supplier and appropriate chemical analysis of the toxicant to either address listed in the reporting requirements section herein. The initial series of a least five SRT tests for a specific test species method shall be completed and approved in writing by the Department prior to the conduct of any chronic toxicity testing for compliance purposes.

B. SUBSEQUENT SRT TESTING REQUIREMENTS

After receiving the initial approval from the Department to conduct chronic toxicity tests for compliance purposes, subsequent SRT testing shall be conducted as follows:

1. Where organisms used in testing are cultured at the testing laboratory, SRT testing should be conducted once per month for each species/method.

2. Where the laboratory purchases organisms from a laboratory certified in New Jersey for the conduct of acute toxicity testing and approved for the conduct of chronic toxicity testing for the test organism in question (i.e. the "supplier laboratory"), SRT data provided by the "supplier laboratory" for each lot of organisms purchased is acceptable as long as the SRT test result falls within the control limits of the control chart established by the "supplier laboratory" for that organism. The laboratory using purchased organisms is responsible for the results of any compliance tests they perform.

3. A testing laboratory purchasing organisms from a supplier laboratory must still perform SRT testing on a quarterly basis at a minimum, for each species they test with, in order to adequately document their own interlaboratory precision.

4. If a testing laboratory purchasing organisms elects not to use the SRT data from a "supplier laboratory" or such data is unavailable or where organisms are purchased from another organism supplier, the testing laboratory must conduct SRT testing on each lot of organisms purchased.

5. For industrial laboratories certified under N.J.A.C. 7:18 to conduct acute toxicity tests, only the SRT testing conditions specified in 2. through 4. above apply. Where that laboratory/facility cultures their own test organisms, the frequency of SRT testing required will be determined on a case by case basis, based on the frequency of testing for that facility.

NOTE: Based on these requirements, SRT data are considered applicable to a compliance test when the SRT test results are acceptable and the SRT test is conducted within 30 days of the compliance test, for the test species and SRT in question. Therefore, it is not necessary for an approved laboratory to run an SRT test every month if the laboratory is not conducting compliance tests for a particular species.

C. CHANGING OF AN ESTABLISHED REFERENCE TOXICANT

The SRT used for any species by a laboratory may be changed at any time provided that the following conditions have been satisfied:

1. A series of at least three reference toxicant tests are conducted with the new reference toxicant and the results of those tests are identified as satisfactory, in writing, by the Department.

2. Laboratories must continue using the already approved SRT in their ongoing QA/QC program, until such time as the letter referenced above, is received by the laboratory.

D. CONTROL CHARTS

Control charts shall be established from SRT test results in accordance with the procedures outlined in the USEPA methods documents. Control charts shall be constructed using IC25's using the following methods:

1. The upper and lower control limits shall be calculated by determining +/- two standard deviations above and below the mean.

2. SRT test results which exhibit an IC25 that is greater than the highest concentration tested or less than the lowest concentration tested (i.e. a definitive endpoint cannot be determined), shall not be used to establish control charts.

3. SRT tests which do not meet the acceptability criteria for a specific species shall not be used to establish control charts.

4. All values used in the control charts should be as nominal concentrations. However, the control charts shall be accompanied by a chart tabulating the test results as measured concentrations.

5. An outlier (i.e. values which fall outside the upper and lower control limits) should be included on the control chart unless it is determined that the outlier was caused by factors not directly related to the test organisms (e.g., test concentration preparation) as the source of variability would not be directly applicable to effluent tests. In such case, the result and explanation shall be reported to the Department within 30 days of the completion of the SRT test.

The control chart established for the initial series of SRT data submitted will be used by the laboratory and the Department to determine outliers from SRT test results reported in the "NJPDES Biomonitoring Report Form - Chronic Toxicity Test" submitted by the permittees for the test species. These initial control limits will remain unchanged until twenty SRT tests have been completed by the laboratory.

The following procedures shall be used for continually updating control charts after twenty acceptable SRT tests have been completed:

1. Once a laboratory has completed twenty acceptable SRT tests for a test species, the upper and lower control limits shall be recalculated with those twenty values.

2. For each successive SRT test conducted after these first twenty tests, a moving average shall be calculated and the control limits reevaluated using the last twenty consecutive test results.

3. The upper and lower control limits shall be reported on the "NJPDES Biomonitoring Report Form - Chronic Toxicity Tests" along with the SRT test result.

E. UNACCEPTABLE SRT TEST RESULTS

If a laboratory produces any SRT test results which are outside the established upper and lower control limits for a test species at a frequency greater than one test in any ten tests, a report shall be forwarded to the Department at the address contained herein. This report shall include any identified problem which caused the values to fall outside the expected range and the corresponding actions that have been taken by the laboratory. The Department may not accept or may require repeat testing for any toxicity testing that may have been affected by such an occurrence.

If a laboratory produces two consecutive SRT test results or three out of any ten test results which are outside the established upper and lower limits for a specific test species, the laboratory shall be unapproved to conduct chronic toxicity tests for compliance purposes for that test species. Reapproval shall be contingent upon the laboratory producing SRT test results within the established upper and lower control limits for that test species in two consecutive SRT tests. If one or both of those test results again fall outside the established control levels, the laboratory is unapproved for that test species until five consecutive test results within the established upper and lower control limits are submitted and approved by the Department.

F. ANNUAL SUBMITTALS

Control charts shall be forwarded to the Department on an annual basis, on the anniversary of approval for the test species.

The Department may request, at any time, any information which is essential in the evaluation of SRT results and/or compliance data.

V. TEST CANCELLATION / RESCHEDULING EVENTS

A lab may become aware of QA problems during or immediately following a test that will prevent data from being submitted or a lab may be unable to complete a tests due to sample collection or shipping problems. If for any reason a chronic toxicity test is initiated and then prematurely ended by the laboratory or at the request of the permittee, the laboratory shall submit the form entitled "Chronic Whole Effluent Toxicity Testing Test Cancellation / Rescheduling Event Form" contained herein. This form shall be used to detail the reason for prematurely ending the test. This completed form and any applicable raw data sheets shall be submitted to the appropriate biomonitoring program at the address above within 30 days of the cessation of the test.

Tests are considered to be initiated once test organisms have been added to all test chambers.

Submission of this form does not relieve the facility from monitoring for that monitoring period.

VI. REPORTING

The report form entitled "NJPDES Biomonitoring Report Form - Chronic Toxicity Tests" should be used to report the results of all NJPDES chronic compliance biomonitoring tests. Laboratory facsimiles are acceptable but must contain all information included on any recent revisions of the form by the Department. Statistical printouts and raw data sheets for all endpoints analyzed shall be included with the report submitted to the Department. Two copies of all chronic toxicity test report forms shall be submitted to the following address as applicable:

Bureau of Point Source Permitting Region 1 **OR**
Bureau of Point Source Permitting Region 2 (as indicated in the cover letter)

New Jersey Department of Environmental Protection
Division of Water Quality
PO Box 29
Trenton, NJ 08625-0029

It is not necessary to attach a copy of a test report form to the Discharge Monitoring Report (DMR) form when submitting this form to the Department. However, the results of all chronic toxicity tests conducted for compliance purposes must be reported on the DMR form under the appropriate parameter code in the monitoring period in which the test was conducted.

VII. METHOD SPECIFICATIONS

The following method specifications shall be followed as specified in the NJPDES permit. Any changes to these methods will not be considered acceptable unless they are approved in writing by the Department, prior to their use.

A. Fathead Minnow (*Pimephales promelas*), Larval Survival and Growth Test, method 1000.0
B. *Ceriodaphnia dubia*, Survival and Reproduction Test, method 1002.0
C. Algal, (*Selenastrum capricornutum*), Growth Test, method 1003.0
D. Sheepshead Minnow (*Cyprinodon variegatus*), Larval Survival and Growth Test, method 1005.0
E. Inland Silverside (*Menidia beryllina*), Larval Survival and Growth Test, method 1006.0
F. *Mysidopsis bahia*, Survival, Growth, and Fecundity Test, method 1007.0
G. *Champia parvula*, Sexual Reproduction Test, method 1009.0

VIII. REFERENCES

1. Keating, K. 1985. The influence of Vitamin B12 deficiency on the reproduction of Daphnia pulex Leydig (Cladocera). J. Crustacean Biology 5:130-136.

2. Keating, K. 1988. N.J.D.E.P. Project C29589, Fiscal 1988 Third Quarter Summary Report. Producing Nutritionally Competent Daphnids for Use in Bioassay. 44p.

3. Keating, K., and B. Dagbusan. 1984. Effect of selenium deficiency on cuticle integrity in Cladocera (Crustacea). Proc. Natl. Acad. Sci. USA 81:3433-3437.

4. NJDEP, 1993. Discharge Monitoring Report (DMR) Instruction Manual.

5. USEPA. 1994. Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. EPA-600/4-91-003. July 1994. Second Edition.

6. USEPA. 1994. Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. July 1994. Third Edition.

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
PO Box 29
TRENTON, NEW JERSEY 08625-0029
BIOMONITORING PROGRAM

CHRONIC WHOLE EFFLUENT TOXICITY TESTING
TEST CANCELLATION / RESCHEDULING EVENT FORM

THIS FORM IS TO BE COMPLETED AND SUBMITTED TO THE DEPARTMENT DIRECTLY BY THE LABORATORY CONDUCTING CHRONIC TOXICITY TESTS WHENEVER A CHRONIC TOXICITY TEST IS PREMATURELY ENDED FOR ANY REASON

NJPDES No.: _____

FACILITY NAME: _____

LOCATION: _____

CONTACT: _____ PHONE: _____

CANCELLATION EVENT:

LABORATORY NAME / NUMBER: _____

CONTACT: _____

TEST START DATE: ____/____/____ TEST END DATE: ____/____/____

REASON FOR CANCELLATION: _____

_____

_____

_____

_____

_____

EFFLUENT SAMPLING:

SAMPLING POINT / DESCRIPTION OF SAMPLING SITE: _____

_____

SAMPLING INITIATED: DATE: ___/___/___ TIME: _____

SAMPLING ENDED: DATE: ___/___/___ TIME: _____

NUMBER OF EFFLUENT SAMPLES COLLECTED: _____

SAMPLE TYPE (GRAB/COMPOSITE): _____

RECEIVED IN LAB BY/FROM: _____

_____

METHOD OF SHIPMENT: _____

(ALL APPLICABLE RAW DATA SHEETS MUST BE ATTACHED)

c: Permittees authorized agent.

Masterfile #: 14271

PI #: 46121

RWBR Approval Status List

The permittee is only authorized to utilize RWBR for the specific category, type and location that has been approved in the table below.

RWBR Category	Specific RWBR Type	Location	Status
PA	Spray Irrigation (Golf Course)	None	Not Approved
PA	Spray Irrigation (Athletic Fields, Playgrounds)	None	Not Approved
PA	Spray Irrigation (Residential Lawns)	None	Not Approved
PA	Vehicle Washing	None	Not Approved
PA	Hydroseeding/Fertilizing	None	Not Approved
PA	Decorative Fountains	None	Not Approved
PA	Toilet Flushing	None	Not Approved
RA-LA	Sod Irrigation	None	Not Approved
RA-LA	Spray Irrigation within a fenced perimeter or otherwise restricted area	None	Not Approved
RA-LA	Spray Irrigation within a fenced perimeter or otherwise restricted area (Without NH3 + NO3)	None	Not Approved
RA-LA	Spray Irrigation (not fenced or restricted area)	None	Not Approved
RA-CM	Street Sweeping	None	Not Approved
RA-CM	Dust Control	None	Not Approved
RA-CM	Fire Protection	None	Not Approved
RA-CM	Vehicle Washing (at STP or DPW)	None	Not Approved
RA-CM	Composting	None	Not Approved
RA-IS	Sanitary Sewer Jetting	BCUA Sewer Service Area	Approved
RA-IS	Non-Contact Cooling Water	None	Not Approved
RA-IS	Boiler Makeup Water	None	Not Approved
RA-IS	Road Milling	None	Not Approved
RA-IS	Hydrostatic Testing	None	Not Approved
RA-IS	Parts Washing	None	Not Approved
RA-IS	STP Washdown	BCUA	Approved

Categories:

PA	Public Access
RA-LA	Restricted Access-Land Application and Non-Edible Crops
RA-CM	Restricted Access--Construction and Maintenance Operations
RA-IS	Restricted Access--Industrial Systems

Abbreviations:

NH3 -	Ammonia
NO3 -	Nitrate
STP -	Sewage Treatment Plant
DPW -	Dept. of Public Works

Annual Reuse Report

Any facility that has received an RWBR authorization is required to submit an Annual Reuse Report. The following information, at a minimum, shall be included in the report, due on February 1st of each year.

(1) The total wastewater reused (R) by the facility in the previous calendar year. If no wastewater was reused in the previous calendar year, report R as zero and skip to (6) below;

R = _____ gallons

(2) The total wastewater discharged (D) by the facility in the previous calendar year;

D = _____ gallons

(3) The percent of wastewater reused (%R) by the facility in the previous calendar year, calculated as follows:
%R = R/(R+D), expressed as a percent;

%R = _____ percent

(4) The total wastewater that was reused for **each reuse type** in the previous calendar year. This information should be provided in the chart format utilized in the RWBR Usage Table below;

RWBR Usage Table

RWBR Category	Specific RWBR Type	Location	Flow (gallons)

Attach additional pages as necessary.

(5) An update to the correlation between Total Suspended Solids and Turbidity, if necessary;

Correlation = _____

(6) Submit a completed copy of this form to:

For paper copies:
Mail Code 401 – 02B
Division of Water Quality
Bureau of Surface Water Permitting
P.O. Box 420
Trenton, NJ 08625-0420

For electronic copies:
ben.manhas@dep.state.nj.us

Annual Reuse Report - SAMPLE

Any facility that has received an RWBR authorization is required to submit an Annual Reuse Report. The following information, at a minimum, shall be included in the report, due on February 1st of each year.

(1) The total wastewater reused (R) by the facility in the previous calendar year. If no wastewater was reused in the previous calendar year, report R as zero and skip to (6) below;

R = _____ gallons

(2) The total wastewater discharged (D) by the facility in the previous calendar year;

D = _____ gallons

(3) The percent of wastewater reused (%R) by the facility in the previous calendar year, calculated as follows: %R = R/(R+D), expressed as a percent;

%R = _____ percent

(4) The total wastewater that was reused for **each reuse type** in the previous calendar year. This information should be provided in the chart format utilized in the RWBR Usage Table below;

RWBR Usage Table

RWBR Category	Specific RWBR Type	Location	Flow (gallons)
	For Example:		
RA-CM	*Street Sweeping*	*Local Township*	*42,000*
RA-IS	*Sanitary Sewer Jetting*	*Facility Sewer Service Area*	*15,000*
RA-IS	*STP Washdown*	*Sewage Treatment Plant*	*43,000*
		Grand Total (R)	*100,000*

Attach additional pages as necessary.

(5) An update to the correlation between Total Suspended Solids and Turbidity, if necessary;

Correlation = _____

(6) Submit a completed copy of this form to:

For paper copies:
Mail Code 401 – 02B
Division of Water Quality
Bureau of Surface Water Permitting
P.O. Box 420
Trenton, NJ 08625-0420

For electronic copies:
ben.manhas@dep.state.nj.us

APPENDIX C

LIST OF STUDIES
BCUA and Hydraulically Connected Sewer Systems

BCUA:

- Public Participation Report, Bergen County CSO Group, prepared by Hatch Mott MacDonald, dated April 2007.
- CSO Long Term Control Plan, Cost & Performance Analysis, Volume 1, prepared by Hatch Mott MacDonald, dated March 2007.
- CSO Long Term Control Plan, Cost & Performance Analysis, Volume 2, Technical Guidance Manual, prepared by Hatch Mott MacDonald, dated December 2006.

Hackensack:

- City of Hackensack Cost and Performance Analysis Report, dated April 2007.
- City of Hackensack Combined Sewer System Modeling Study, prepared by Malcolm Pirnie Inc., dated August 2007.
- City of Hackensack Rainfall and CSO Monitoring Study, prepared by Malcolm Pirnie Inc., dated December 2006.
- Combined Sewer Overflow Discharge Characterization Study, City of Hackensack, Combined Sewer System Monitoring Program Proposal and Work Plan, prepared by Malcolm Pirnie, Inc., dated November 2005.
- City of Hackensack Combined Sewer System Public Participation Work Plan, prepared by Malcolm Pirnie, Inc., dated May 2005.
- City of Hackensack Facility Inventories and Assessment Analysis, prepared by Malcolm Pirnie, Inc., dated August 1996.
- City of Hackensack Service Area Drainage and Land Use Report, dated February 1996.

Ridgefield Park Village:

- Village of Ridgefield Park, Public Participation Report, prepared by Hatch Mott MacDonald, dated April 2007.
- Village of Ridgefield Park, CSO Long Term Control Plan, Cost & Performance Report, Volume 1, prepared by Hatch Mott MacDonald, dated February 2007.
- Village of Ridgefield Park, CSO Long Term Control Plan, Cost & Performance Report, Volume 2 – Technical Guidance Manual, prepared by Hatch Mott MacDonald, dated December 2006.
- Village of Ridgefield Park, Combined Sewer Overflow Discharge Characterization Study, Rainfall Monitoring Report, prepared by HydroQual, Inc., and Hatch Mott MacDonald, dated September 2006.
- Village of Ridgefield Park, Combined Sewer Overflow Discharge Characterization Study, Combined Sewer System Modeling Study Report, prepared by Hatch Mott MacDonald, dated August 2006.
- Village of Ridgefield Park, Combined Sewer Overflow Discharge Characterization Study, Supporting Laboratory Data, prepared by Hatch Mott MacDonald, dated October 2004.
- Village of Ridgefield Park, Combined Sewer Overflow Discharge Characterization Study, Final Monitoring Report, prepared by Hatch Mott MacDonald, dated October 2004.

- Combined Sewer Overflow Characterization Study, Combined Sewer System Modeling Study Work Plan for the Village of Ridgefield Park, prepared by Hatch Mott MacDonald, dated August 2004.
- Combined Sewer Overflow Characterization Study, "Revised" Quality Assurance/Work Plan for the Village of Ridgefield Park, prepared by Hatch Mott MacDonald, dated December 2002.
- Village of Ridgefield Park, Sewer System Inventory and Assessment Report, prepared by Killam Village Associates, dated February 1997.
- Village of Ridgefield Park, Service Area Drainage and Land Use Report, prepared by Killam Associates, dated November 1996.
- Combined Sewer Overflow Discharge Characterization Study, Quality Assurance/Work Plan for the Village of Ridgefield Park, prepared by Killam Associates, dated August 1996.

Fort Lee:

- Service Area Drainage and Land Use Report, submitted by Boswell McClave Engineering and HydroQual, dated March 2007;
- Sewer System Inventory and Assessment Report, submitted by Boswell McClave Engineering and HydroQual, dated March 2007;
- Rainfall Monitoring Study Report, submitted by Boswell McClave Engineering and HydroQual, dated March 2007;
- CSO Combined Sewer System Modeling Report, submitted by Boswell McClave Engineering and HydroQual, dated March 2007;
- Cost & Performance Analysis Report, submitted by Boswell McClave Engineering and HydroQual, dated March 2007;
- Interim Combined Sewer System Modeling Report for Borough of Fort Lee, prepared by Boswell McClave Engineering and HydroQual, dated March 2007; and
- Public Participation Report, Bergen County CSO Group, submitted by Hatch Mott MacDonald, dated April 2007.